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Genus Coryphaenoides Gunner

Coryphaenoides Gunner, Thronhj.

Selsk. Skrift., vol. 3, pp. 43, 50, 1761.
(Type Coryphaenoides rupestris
Gunner, monotypic.).

Macrourus Bloch, Naturg. Ausl.

Fische, vol. 3, pt. 6, p. 150, 1787.
(Type Coryphaena rupestris, not
Gunner) Fabricius = Macrourus
berglax Lacépède, monotypic.).

Macrurus Schneider, Syst. Ichth.
Bloch, p. 103, 1801. (Type Coryphaena
rupestris (not Gunner) Fabricius.)

Branchiostegus Rafinesque, Analyse
de la nature, p. 86, 1815. (On Gunner;
type Coryphaenoides rupestris
Gunner, virtually.).

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Lepturus Gray, Cat. Fish Gronow,
p. 165, 1854. (Type Lepturus
brevirostris Gray = Coryphaenoides
rupestris Gunner, monotypic.)

Macruropus Bleeker, Verh. Kon.
Akad. Wet. Amsterdam, no. ,
vol. 8, p. 369, 1874. (Type Macurus
serratus Lowe, orthotypic.)

Chalinura Goode and Bean, Bull.
Mus. Comp. Zool., vol. 10, no. 5, p.
198, 1883. (Type Chalinura simula
Goode and Bean, monotypic.)

Chalinurus Günther, Rep. Voy.
Challenger, vol. 22, pp. 122, 144, 1887.
(Type Chalinura simula Goode
and Bean.)

Optonurus Günther, Rep. Voy.
Challenger, vol. 22, pp. 124, 147,
1887. (Type Macurus denticulatus
Richardson, monotypic.)

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hematonurus Günther, Rep. Voy.
Challenger, vol. 22, pp. 124, 150,
1887. (Type macurus armatus
Hector, designated by Jordan,
Genera of Fishes, pt. 4, p. 437,
1920.)

Moseleya (not Quelch 1884) Goode
and Bean, Oceanic Ichth., p. 417,
1895. (Type Coryphaenoides
longifilis Günther, monotypic.)

Albatrossia Jordan and Evermann,
Bull. U. S. Nat. Mus., no. 47, pt. 3,
p. 2573, 1898. (Type macurus
(malacocephalus) pectoralis Gilbert,
monotypic.)

Bogoslovius Jordan and Evermann,
Bull. U. S. Nat. Mus., no. 47, pt. 3,
p. 2574, 1898. (Type Bogoslovius
clarki (Jordan and Gilbert) Jordan
and Evermann, designated by Jordan,
Genera of Fishes, pt. 4, p. 482, 1920.)

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Dollosa Jordan, Amer. Naturalist,
vol. 34, p. 897, 1900. (Type
Coryphaenoides longifilis Günther,
virtually, as Dollo Jordan proposed
to replace Moseleya Goode and
Bean.)

Hyomacurus Gilbert and Hubbs,
Bull. U. S. Nat. Mus., no. 100, vol. 1,
p. 422, 1920. (Type Macurus
hyostomus Smith and Radcliffe,
orthotypic.)

Sphagemacurus Fowler, Amer. Mus.
Novist., no. 162, p. 3, March 31, 1925.
(Type Macurus hirundo Collett,
orthotypic.)

Body rather robust. Head large or short, without strongly marked ridges and more or less pronounced suborbital ridge not extending to preopercle. Snout variably short or long, obtuse or truncated, high; projects beyond mouth, not produced; usually soft to touch, except bony center. Mouth small to moderate, inferior to terminal. Barbel small or absent. Teeth various, uniserial or partly so, sometimes only so in lower jaw; sometimes in villiform bands when outer series may be enlarged. No teeth on vomer, palatines or pterygoids. Gill openings wide, membranes broadly united in front, adnate to isthmus, with posterior free fold, strong, spiny, tubercular, fewer than 15 on lower limb of second arch. Branchiostegals

Coelorhynchus thompsoni Gilbert and Hubbs

Coelorhynchus thompsoni Gilbert and Hubbs,
Bull. U. S. Nat. Mus., no. 100, vol. 1, p.
443, fig. 8, 1920 (type locality: Balayan
Bay, south west Luzon, in 180 fathoms;
China Sea off southern Luzon; Verde
Island Passage, Luzon; off northern
Mindanao; in 135 to 200 fathoms).

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6. Bony ridges of head sometimes prominent and rough, or membrane bones of sides soft and papery. Scales moderate or large, spinous with age, beveled, imbricated, very rough; sometimes cycloid, especially in young, fluted longitudinally with slightly radiating striae. Lateral line axial, lateral, slightly arched or nearly straight above pectoral, complete. Second or elongate

dorsal ray finely spinous to serrate in front. Second dorsal long, low, with numerous short rays. Sometimes soft dorsal lower than anal. Pectoral rays 10 to 22. Ventral and pectoral below first dorsal. Ventral rays 8 to 10, outer ray usually extended, origin somewhat behind pectoral origin. Vent close before or remote from anal origin.

Species of moderate or large size, usually much less than 500 mm. The oldest and best known genus, usually admitted under the later name *Macrourus* or *Macrurus*. Widely distributed in all seas in depths of from 180 to 3500 meters.

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Coryphaenoides abyssorum (Gilbert)

Hematomus abyssorum Gilbert,
Proc. U. S. Nat. Mus., vol. 48, p.
374, pl. 21, fig. 23, 1915 (type locality:
lat. $33^{\circ} 2' 15''$ N., long. $120^{\circ} 42''$ W., off
Santa Catalina Island, in 1350 to
2182 fathoms). — Gilbert and Hubbs,

Proc. U. S. Nat. Mus., vol. 51, p. 143, 1916
(reference). — Jordan, Evermann, Clark,
Rep. U. S. Comm. Fisher., pt. 2, p. 204,
1928 (1930) (reference).

Depth $5\frac{2}{3}$; head $5\frac{1}{2}$, width $1\frac{2}{5}$. Snout to eye 4 in head; eye 6, $1\frac{1}{2}$ in snout, $1\frac{3}{5}$ in interorbital; orbit $5\frac{1}{4}$ in head, $1\frac{1}{6}$ in snout, $1\frac{1}{3}$ in interorbital; maxillary extends slightly beyond orbit, length from front end $2\frac{2}{3}$ in head; mandibular barbel nearly long as eye; teeth in each jaw rather small, conic, uniserial, above smaller teeth form 2 or 3 irregular inner series forward and mandible with inner pair at symphysis; interorbital $4\frac{1}{5}$ in head, low, slightly convex. Gill rakers 2+9, low-tubercles, $3\frac{2}{5}$ in gill filaments, which $1\frac{1}{5}$ in eye.

Scales 144 in lateral line to pseudocaudal; 9 above, 19 below, 50

Squamipennes, likewise the Zeidae, in the post-temporal not joined solidly with the skull. They agree with the Squamipennes especially in their densely scaled bodies and fins and the lateral restriction of the gill openings.

The Squamipennes include the Toxotidae, Scatophagidae, Chaetodontidae, Zanclusidae, Hepatidae and Siganidae.

Though these groups have all been more or less loosely used we have preferred to simply accept them without further detailed definition.

While all the materials collected by the United States Steamer Albatross from 1907 to 1910 in the Philippines and East Indian region, representative of the above families, form the basis of this work, we have also examined the general series of

predorsal forward to snout tip of which about 26 forward till opposite hind eye edges. Scales with 3 to 5 radiating apical spinuliferous beels, though none of spinules extend back beyond hind edge of scale; circuli fine, mostly complete.

D. II, 10 — 95?, second simple ray pungent, slender, length $1\frac{7}{8}$ in head; interdorsal space $1\frac{1}{2}$; A. 11?; fin height 4; pseudocaudal very small, short; pectoral rays I, 18, fin $1\frac{2}{3}$ in head; ventral rays I, 10, fin $1\frac{3}{4}$.

Dark brown, more or less uniform and nearly neutral blackish on breast and belly. Inside mouth and gill opening blackish. Iris brownish. Fins

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material in the United States National Museum pertaining to the same limits. Many of these fishes early attracted the pioneer voyagers and naturalists, so that many have long been known to science. It therefore follows that we have very few to report as new. The following are the few new taxonomic ^{subjects} ~~items~~:

Desmoploporus, new subgenus,
under Scatophagus.

Hepatus flavicauda, new species.

Harpurina, new subgenus, under Hepatus.

Hepatus subilus, new species.

Cyphomycter, new subgenus, under
Raso.

Siganus punctatissimus, new species.

Besides the species represented in the above collections we have also included all those described or

all dark brown.

Off California.

U. S. N. M., No. 75827. Lat. $33^{\circ} 2' 15''$ N., long. $120^{\circ} 42' W.$, off Santa Catalina Island. In 1350 to 2182 fathoms.

Albatross Collection (D. 4390).

Length 803 mm. Type.

reported from the entire Indo Pacific region. For these only the original and other important or distributional references are given, besides a condensed account duly credited. As the hepatids and siganids were not included in Bleeker's unfinished Atlas we have given all his important references, so far as we could locate them.

Besides the figures of the few new species are a number of others portraying the variation of some of the more striking individuals, with reference to color designs. These are by the senior author. We ^{are} also indebted to Mr. Earl D. Reid for ~~ascertaining~~ ^{copying} the data of a number of specimens.

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Coryphaenoides acrolepis (J. H. Bean)

Macrurus acrolepis J. H. Bean, Proc.
U. S. Nat. Mus., vol. 6, p. 362, 1883
(type locality: Port Townsend, Washington).

— Jordan, Rep. U. S. Fish Comm., pt. 13,
p. 919, 1885 (1887) (reference). —

Gilbert, Rep. U. S. Fish Comm., pt. 19,
p. 457, 1893 (1895) (off Vancouver and
Oregon, 345 to 786 fathoms). — Garman,

Mem. Mus. Comp. Zool., vol. 24, p. 396,
1899 (reference).

Macrurus (Macrurus) acrolepis Branner,
Deutsch. Tiefsee Exped. Valdivia, vol.
15, p. 389, 1906 (reference).

Macrourus acrolepis Jordan and Evermann,
Bull. U. S. Nat. Mus., no. 47, pt. 3, p. 2585,
1898 (Bogoslof Island record). —

Jordan and Gilbert, Fur Seal Isl. North

Pacific, pt. 3, p. 487, 1899 (off Bogoslof¹¹¹⁰ Island, 664 fathoms). — Evermann and Goldsborough, Bull. Bur. Fisher., vol. 26, p. 350, fig. 131, 1906 (1907) (north of Aleutian Islands). —

Gilbert and Burke, Bull. Bur. Fisher., vol. 30, p. 91, 1910 (1912) (off Aleutians and Kamchatka).

Coryphaenoides acrolepis Gilbert and Hubbs, Proc. U. S. Nat. Mus., vol. 51, p. (143)¹⁶², 1917 (reference).

Coryphaenoides bona-nox Jordan and Thompson, Mem. Carnegie Mus., vol. 6, no. 4, p. 305, pl. 38, figs. 1-1a, 1914 (type locality: Sagami Bay, Japan).

Hematomus bona-nox Gilbert and Hubbs, Proc. U. S. Nat. Mus., vol. 51, p. (143) 162, 1916 (Enoshima).

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Depth $5\frac{3}{4}$ to $8\frac{1}{4}$; head $4\frac{3}{4}$ to $5\frac{1}{2}$, width $1\frac{7}{8}$ to $2\frac{1}{10}$. Snout $3\frac{1}{3}$ to $3\frac{7}{8}$ in head; eye $3\frac{1}{3}$ to $4\frac{1}{8}$, 1 to $1\frac{1}{8}$ in snout, greater than interorbital; maxillary reaches $\frac{3}{5}$ to $\frac{3}{4}$ in eye, length from front end $2\frac{2}{5}$ to 3 in head; preoral length $\frac{1}{2}$ to $\frac{2}{3}$ of eye; teeth conic, short, simple in jaws, in 2 or 3 irregular transverse series, lower band little narrower; mandibular barbel $1\frac{3}{5}$ in eye; interorbital $4\frac{1}{8}$ to $5\frac{1}{8}$ in head, low, slightly convex, often slightly depressed medially. Gill rakers 3 + 10 short knobs on second arch, $\frac{2}{5}$ gill filaments, which $\frac{1}{2}$ of eye.

Family ~~Stegosauridae~~ ^{Caproidae}

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Body compressed, deep, back elevated. Head small. Snout short. Eye moderate. Mouth moderately small, lower jaw protruding. Teeth very small, slender. Premaxillaries very protractile, hind processes very long. Opercle small. Top of head bony. Preopercle and preorbital more or less serrated. Gills normal. Gill membranes separate, free from isthmus. Vertebrae 23, of which 13 caudal. Scales small, ctenoid, extend on sides of head. Lateral line not extending on caudal. Dorsal long, stout spines separated from soft rays by deep notch,

Scales 170 to 175 in lateral line, of which 22 to 24 forward of vent; 10 above, 24 below, 67 predorsal. Scales on muzzle, interorbital and under surface of head much smaller, others like those on body. Scales rather firmly adherent, largest on abdomen. Scales with 5 to 8 radiating keels apically, each stria crowned with row of spinules, last projecting at scale edge; circuli very fine, complete.

D. II, 11 — 115 to 122, second simple ray with front edge denticulate, length $1\frac{1}{10}$ to $1\frac{3}{5}$ in head, second dorsal rays all lower than anal rays; A. 100 to 113; no distinct caudal; pectoral

spines not graduated. Anal spines 3, separated by notch from soft rays, first spine longest. Soft dorsal and anal alike. Caudal rounded, peduncle moderate.

Ventral with strong spine and 5 rays, inserted below pectorals.

Genera 3, the extinct Metoponichthys Kramberger = Proantigonia Kramberger, said to be intermediate. The few recent species of wide distribution and living at moderate depths. The Atlantic Caproz Lacepede differs from Antigonia in its very protractile mouth.

rays \underline{I} , 19, fin $1\frac{4}{5}$ to 2 in head;
ventral rays \underline{I} , 7, fin $1\frac{4}{5}$ to 2,
first ray elongate filament.

Uniform dark chocolate brown.
Iris brown. Inside gill opening
and mouth blackish. Fins dark
brown. Sometimes preserved
examples quite pale or light
brown.

North Pacific. The series
here studied shows considerable
variation. Often specimens have
regenerated subcaudals, due likely
to injury or the filaments having
been lost in some way. These
subcaudals are variable though
usually quite small.

8

Genus Antigonia Lowe.

Antigonia Lowe, Proc. Zool. Soc. London,
vol. 2, 1843, p. 85. Type Antigonia
capron Lowe, monotypic.

Caprophonus müller and Troschel, Worce
Ichth. Zool., vol. 3, 1848⁵, p. 28. Type
Caprophonus aurora müller and Troschel,
monotypic.

Hypsinotus Schlegel, Faun. Japon. Poiss.,
dec. V-VI, 1844, p. 84, plate 42, fig. 2.
Atypic. Type Hypsinotus rubescens Günther.

U.S.N.M., No. 32496. Washington Territory. J. G. Swan. Length 635 mm. Type. A large specimen in very poor condition, soft and flabby.

U.S.N.M., No. 45356. Lat. 51°

Albatross Collection (D.).

Length 240 mm.

U.S.N.M., No. 45357. Lat. 51°

Albatross Collection (D. 2860).

Length 145 to 247 mm. 17 examples.

U.S.N.M., No. 46471.

Albatross Collection (D. 2923). Length

323 to 345 mm. 2 examples.

U.S.N.M., No. 46473.

Albatross Collection (D. 3071). Length

185 to 283 mm. 4 examples.

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Body greatly elevated, much deeper than long, very greatly compressed. Upper profile of head to dorsal very steep, almost straight. Mouth small, cleft nearly vertical. Mandible protrudes. Teeth in jaws uniserial, slender, small, none on palate. Cheek deep. Opercle short. Surface of head above with rough bony striae, preopercle and suborbital with slender, antrorse spines. Branchiostegals 6. Scales moderate, firm, rough ctenoid, present on maxillary, cheek and opercle. Lateral line concurrent with back. Third dorsal spine stout, elevated, sixth or last shortest, lower than rays. Anal spines with first longest. Soft dorsal and anal long and low. Caudal short, truncate. Pectoral moderate.

U. S. N. M., No. 46474.

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Albatross Collection (D. 3073). Length
353 mm.

U. S. N. M., No. 46546.

Albatross Collection (D. 2986). Length
280 mm.

U. S. N. M., No. 46547.

Albatross Collection (D. 3075). Length
422 mm.

U. S. N. M., No. 47214.

Bur. Fisher. (869). Length 715 mm.

U. S. N. M., No. 47216.

Bur. Fisher. (122). Length 600 mm.

Ventral strong, moderate, lowest in
ventral outline, large spine
roughened in front.

Species of moderate size and
pale red coloration*, living in
moderate depths. They appear to
have been unduly multiplied,
as our materials show a great
range of variation. Likely all are
referred to but 2 or 3 species.

U. S. N. M., no. 47217.

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Bur. Fisher. (120). Length 585 mm.

U. S. N. M., no. 47218.

Bur. Fisher. (854). Length 423 mm.

U. S. N. M., no. 47222.

Albatross Collection
~~Bur. Fisher.~~ (104). Length 362 mm.

U. S. N. M., no. 47224.

Albatross Collection (108). Length 358 mm.

U. S. N. M., no. 47225.

Bur. Fisher. (125). Length 460 mm.

U. S. N. M., no. 47229.

Bur. Fisher. (105). Length 405 mm.

Deviana new subgenus

Type. — Pseudochromis quinquedentatus
McCulloch.

Diagnosis. Includes species with rounded
caudal, dorsal rays 25 to 27 and anal
rays 14 to 17.

(For Charles W. De Vis, of the Queensland
Museum, who described many Australian
fishes 1882 - 1885.)

U. S. N. M., No. 47230.

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Albatross Collection (). Length 432 mm.

U. S. N. M., No. 47231.

Bur. Fisher. (848). Length 437? mm.

U. S. N. M., No. 47234.

Bur. Fisher. (851). Length 510? mm.

U. S. N. M., No. 48777.

Bur. Fisher. (1735). Length 470 mm.

U. S. N. M., No. 49093.

Bur. Fisher. (1378). Length 392 mm.

Bur. Fisher. (1379). Length 435 mm.

Bur. Fisher. (1384). Length 400 mm.

of eyes, 4 rows on cheeks and preopercle flange nalsed.

D. III, 23, figure shows III, 24, I, third spine $2\frac{4}{5}$ in total head length, twenty first ray 1; A. III, 12, third spine $1\frac{4}{5}$, ninth ray; caudal 1, convex behind; least depth of caudal peduncle 2; pectoral $1\frac{1}{8}$; ventral $2\frac{1}{4}$ in combined head and body to caudal base.

Shining yellowish brown, with several round spots of azure blue scattered over body. Cheeks crossed obliquely by row of 3 spots. Length 64 mm.

(Richardson.)

McCulloch mentions specimens to 89 mm. and that a large black blotch occurs on the spinous dorsal, rest of fin with anal and caudal uniform or closely covered with minute ocelli.

Bur. Fisher. (1386). Length 432 mm.
U. S. N. M., no. 49161.

Bur. Fisher. (634). Length 208 mm.
U. S. N. M., no. 53878.

Albatross Collection (D. 2890). Length
177 mm.

U. S. N. M., no. 53879.

Albatross Collection (D. 2860).

Length 198 to 258 mm. 8 examples.

U. S. N. M., no. 54108.

Albatross Collection (D. 2871). Length
270 to 328 mm. 4 examples.

The spiny rayed fishes of the series Capriformes, Ehippiformes, and Squamipennes, as limited by Jordan, form the subject of this paper. Under the Capriformes we unite the Antigoniidae with the Caproidae, to include Caprox and Antigonia. Though suggestive of the Zeidae they differ in the ventrals having one spine and five soft rays. Like the Squamipennes both have the post-temporal solidly united with the skull. Both the Capriformes and the Zeidae differ from the Squamipennes in the gill membranes free from the isthmus.

The Ehippiformes include the Scorpidae, Monodactylidae, Platacidae and Ehippididae, as we merge the Drepanidae with the last. They differ from both the Capriformes and the

U. S. N. M., No. 54114.

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Albatross Collection (D. 2860). Length
228 to 398 mm. 2 examples.

U. S. N. M., No. 54362. Lat. $54^{\circ}32'$
N., long. $178^{\circ}31'E$.

Albatross Collection (2599) Length 168 mm.

Albatross Collection (2601) Length 128 mm.

U. S. N. M., No. 54363. Lat. $39^{\circ}48'$
 $20''$ N., long. $124^{\circ}47'15''$.

Albatross Collection (D. 2426). Length 385 mm.

U. S. N. M., No. 54365.

Albatross Collection (D. 2420). Length 315 mm.

Albatross Collection (D. 2430). Length 378 mm.

Albatross Collection (D. 2431). Length 330 mm.

c. Scales smaller, more than 100 along above lateral line; maxillary expansion wide as interspace to eye. aequipinnis

cc. Scales larger, less than 100 along above lateral line; maxillary expansion wider than interspace to eye.

d. Anal rays equal or more numerous than dorsal; interorbital space less convex; eye larger. lineolatus

dd. Anal rays fewer than dorsal; interorbital very convex; eye smaller. violaceus

bb. Dorsal rays 30, anal 23. oblongus

aa. Scorpius. Body deeper, depth over half length; soft dorsal and anal strongly produced anteriorly; body with 2 broad dark cross bands. georgianus

Albatross Collection (D. 2432). Length 255 mm.

Albatross Collection (D. 2433). Length 298 mm.

Albatross Collection (D. 2434). Length 354 mm.

Albatross Collection (D. 2435). Length 235 mm.

Albatross Collection (D. 2436). Length 300 mm.

Albatross Collection (D. 2437). Length 18.8 mm.
U. S. N. M., No. 70975.

June 3, 1906.
Albatross Collection (D. 4767). Length 235 to
258 mm. 2 examples.

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Body more or less elevated or oblong ovate. Mouth moderate, maxillary rather short and exposed. Jaws with bands of teeth, outer series more or less enlarged; patches of minute teeth on vomer, palatines, pterygoids and tongue. Preopercle serrated. Body and most of head covered with rather small, ctenoid scales. Soft vertical fin scaly and spinous portion with scaly sheath. Dorsals continuous, with 9 or 10 spines graduated to last which longest and rays 24 to 30. Anal spines 3, rays 24 to 30.

Species mostly Australian. The following is largely from McCulloch.

Analysis of the species.

a. Agenor. Body more slender, depth half or less than half its length; soft dorsal and anal not or only slightly produced anteriorly; no dark cross bands.

b. Dorsal and anal rays of about equal number.

U. S. N. M., no. 70976.

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Albatross Collection (D. 4768). June 3, 1906.
Length 148
to 310 mm. 2 examples.

U. S. N. M., no. 70977.

Albatross Collection (D. 4774). Length
145 to 165? mm. 2 examples.

U. S. N. M., no. 70978.

Albatross Collection (D. 4775). Length 196
to 334 mm. 5 examples.

U. S. N. M., no. 75577. Lat. $51^{\circ}23'N.$,
Long. $130^{\circ}34'W.$

Albatross Collection (D. 2860). Length 218 to 433
mm. 27 examples.

U. S. N. M., no. 75618.

Albatross Collection (D. 4542). Length 275
mm.

27

Genus Scorpi Valenciennes.

Scorpi Valenciennes, Hist. nat. Poiss.,
vol. 8, 1831, p. 371. Type Scorpi
georgianus Valenciennes, monotypic.

Agenor Castelnau, Proc. Linn. Soc. New
South Wales, vol. 3, 1879, p. 371. Type
Agenor modestus Castelnau, monotypic.

Heptotichthys Hutton, Trans. New
Zealand Inst., vol. 22, 1889 (1890), p.
270. Type Detrema violaceus Hutton,
monotypic.

Caesioma Kaup, Nederl. Tijds. Dierk.,
deel 1, 1864, p. 161. Cotype. Type
Caesioma sieboldi Bleeker.

U. S. N. M., no. 75619.

1123

Albatross Collection (D. 4336). Length 310 mm.
U. S. N. M., no. 75620.

Albatross Collection (D. 4405). Length 230
to 363 mm. 3 examples.

U. S. N. M., no. 76010. Lat. $32^{\circ} 32' 40''$ N.,
long. $118^{\circ} 4' 20''$ W.

Albatross Collection (D. 4387). Length 342 mm.
U. S. N. M., no. 87578.

Albatross Collection (). Length 337 mm.

shorter than ventral; mouth very large.

Atypopoma

dx. First 6 dorsal spines free, only last 3 joined by membrane; scales ~~very~~ small, about 100.

Gilodon

cx. Caudal but feebly notched behind;

D. XII, 15; scales 130.

Parascorpius

bb. Fins scaleless; scales 53 to 55;

D. XV, 11; A. IV, 10.

Doidyxodon

aa. Coloration variegated, with dark horizontal or oblique bands; mouth very small.

ff. Band of villiform teeth in each jaw; spinous dorsal and anal scaleless.

Atypichthys

ff. Broad band of trilobate moveable teeth in each jaw; spinous dorsal and anal scaleless.

Heatyus

1124

Coryphaenoides aequalis Günther

Coryphaenoides aequalis Günther, Ann.
Mag. Nat. Hist., ser. 5, vol. , p. 25,
1878 (type locality: deep sea south
of Portugal, 600 fathoms); Rep. Voy.
Challenger, vol. 22, p. 134, pl. 32, fig.
C, 1887 (). — Vaillant, Exped.

Sci. Travailleur et Talisman, Poiss., p.
228, 1888 (reference).

Macrurus aequalis Goode and Bean,
Oceanic Ichth., p. 392, 1895 (reference).

— Köhler, Ann. Univ. Lyon, vol. 26, 1896,
p. 495 (Gulf of Gascony, 1410 meters). —
Collett, Rés. Camp. Sci. Monaco, vol. 10,
p. 75, pl. 2, figs. 9-9b, 1896 (north of
São Jorge, Azores, 861 meters). —

→ Murray and Hjort, Depths of the Ocean,
p. 397, fig. 27d, 1912 (Faroe Banks; west
of Brest; Bay of Biscay; off north
west Africa; 504 to 1424 fathoms).
{ Garman, Mem. Mus. Comp. Zool., vol. 24, p.
396, 1899 (reference). —

1125

macrurus (macrurus) aequalis Brauer,
Deutsch. Tiefsee Exped. Valdivia,
vol. 15, p. 389, 1906 (reference).

? Coryphaenoides serratus ^{W. J.} Thomson,
Voyage of Challenger, vol. 1, p. 118, fig.
3, 1877 (type locality):

1126

~~Coryphaenoides serrulus~~ (J. H. Bean)

Chalinura serrula J. H. Bean, Proc. U.S. Nat. Mus., vol. 13, p. 37, 1890 (type locality: Lat. $55^{\circ}20'N.$, long. $136^{\circ}20'W.$, 1569 fathoms, east of Prince of Wales Island, British Columbia). — Goode and Bean, Oceanic

Ichth., p. 412, 1895 (reference). — Jordan and Evermann, Bull. U.S. Nat. Mus., no. 47, pt. 3, p. 2576, 1898 (copied). —

Garman, Mem. Mus. Comp. Zool., vol. 24, p. 395, 1899 (reference). — Evermann and Goldborough, Bull. Bur. Fisher., vol. 26, p. 349, 1906 (1907) (name).

Coryphaenoides serrulus Gilbert and Hubbs, Proc. U.S. Nat. Mus., vol. 51, p. 144, 1916 (reference).

Depth $7\frac{1}{5}$ to $7\frac{1}{2}$; head $4\frac{2}{5}$ to $4\frac{7}{8}$, width 2. Snout $3\frac{7}{8}$ to 4 in head; eye $5\frac{1}{2}$ to 6, $1\frac{2}{5}$ to $1\frac{2}{3}$ in snout, $1\frac{2}{5}$ to $1\frac{1}{2}$ in interorbital; preoral length little inclined from vertical, short, $7\frac{3}{4}$ to $9\frac{1}{5}$ in head; maxillary reaches $\frac{3}{4}$ to $\frac{4}{5}$ in eye, length from front end $2\frac{1}{4}$ to $2\frac{2}{5}$ in head; mandibular barbel 6; teeth in villiform bands in jaws, 7 rows transversely above of which outer enlarged, lower narrower band of 2 or 3 irregular rows; interorbital 4 to $4\frac{1}{5}$ in head, low or very slightly convex. Gill rakers 14 + 10 low spinescent tubercles on second arch, $\frac{1}{2}$ of gill filaments.

Scales (pockets) 140? in lateral line; 7 or 8 above, 18 or 19 below,

176

Chelmonops truncatus (Kner).

Chaetodon truncatus Kner, Sitzb. Abad. Wiss.
Wien, band 34, 1859, p. 442, plate 2. Sydney.
— Kner, Reis. Novara, Fisch., 1866, p. 103
(note).

Chelmo truncatus Günther, Cat. Fish. Brit.

Mus., vol. 2, 1860, p. 516 (copied); — Waite, Records
Austral. Mus., vol. 3, 1900, p. 103 (Lord Howe Island).

Chelmonops truncatus Waite, Records

~~Austral. Mus., vol. 5, 1903, p. 103.~~

~~McGilby~~, Mem. Queensland Mus., vol. 5, 1916,
p. 183 (off Double Island Point, Queensland).

— Mc Culloch, Biol. Res. Endeavour, vol. 4,
pt. 4, 1916, p. 194 (off Double Island Point). —

Mc Culloch, Australian Zool., vol. 2, pt. 2,
1922, p. 91, plate 27 (New South Wales).

Chelmo trochilus Günther, Ann. Mag. Nat. Hist.
London, vol. 14, series 4, 1847, p. 368. Australia.

Chelmonops trochilus Abel, Arch. Naturg., band 89,
abth. A, heft 5, 1923, p. 17, plate 1, fig. 2 (Sydney).

24 predorsal forward opposite hind eye edge. Scales very caducous, most all fallen. Scales with 3 parallel apical spinuliferous ridges, last spinules not extended beyond hind scale edge; circuli moderate, complete.

D. II, 9 — 80 to 96, second simple ray slender, row of small antrorse spinules along its front edge, length $1\frac{1}{2}$? to $1\frac{2}{3}$? in head; interdorsal space $2\frac{1}{2}$ to $2\frac{3}{5}$; A. 105, fin height $3\frac{1}{3}$? to 5?; pectoral rays I, 16, fin 2 to $2\frac{1}{5}$ in head; ventral rays I, 9, fin 1 to $1\frac{1}{5}$ in head, first ray ending in long filament.

Light brown, doubtless due to preservation in alcohol. Iris

198

Genus Forcipiger Jordan and Evermann.

Forcipiger (Jordan and McGregor) Jordan and
Evermann, Bull. U. S. Nat. Mus., no. 47, pt. 2,
1898, p. 1671. Type Chaetodon longirostris
Broussinet, designated by Jordan and
McGregor, Rep. U. S. Fish Comm., pt. 24,
1898 (1899), p. 279.

Related to Chelno and Chelmonops
but differing from both in the greatly
longer high spinous dorsal, spines
12 or 13.

dark gray. Opercles and
branchiostegal region gray brown.
Inside mouth gray. Inside
gill opening blackish brown.
Belly and abdomen not dark
in type, neutral or blackish
brown in smaller paratypes,
though breast and chest pale
in all. Fins pale.

Atlantic and eastern Pacific
Oceans.

U. S. N. M., No. 45358.

Albatross Collection (D. 2859).

Type 313 mm and 2 paratypes
151 to 200 mm.

Chelmo longirostris Günther, Cat. Fish.

Brit. Mus., vol. 2, 1860, p. 38 (Amboina).

— Günther, Journ. Mus. Godeffroy, band
2-3, ^{heft} 5-6, 1874, p. 48 (Hawaii, Society

Islands, Paumotu, Friendly Islands,

Kingsmills). — Castelnau, Res. Fish. Australia
(Victoria Rec. Phila. Exhib.), 1875, p. —

(Cape York, Queensland). — Day, Fishes of

India, pt. 1, 1875, p. 106.

Chelmon longirostris Day, Fauna British India, vol. 2, 1889, p. 10.

Trognathodes longirostris Bleeker, Atlas

Ichth. Ind. Néerl., vol. 9, 1877, p. 23, plate
(4) 366, fig. 5 (Ternate, Amboina, Ceram,
Lassa Laut, Banda).

Forcipiger longirostris Fowler, Proc. Acad.

Nat. Sci. Phila., 1900, p. 512 (Hawaiian

Islands). — Weber, Siboga Exped., band

65, 1913, p. 310 (Banda). — Tiibl, Arch.

Naturges., band 89, abth. II, heft 5, 1923, p.

8 (Matupi, New Guinea, Mauritius,

Rahon, Tringtau, Nyrol, Jaluit). —

1130

Coryphaenoides aequatoris (Smith and Radcliffe)

Macrourus aequatoris Smith and Radcliffe,
Proc. U. S. Nat. Mus., vol. 43, p. 120,
pl. 26, fig. 3, 1912 (type locality: Gulf
of Tomini, Celebes, in 1089 fathoms).

Coryphaenoides aequatoris Gilbert and
Hubbs, Proc. U. S. Nat. Mus., vol. 51,
p. 144, 1916 (reference); Bull. U. S.
Nat. Mus., No. 100, vol. 1, p. 419, 1920
(type; Gulf of Tomini, 1092 fathoms).

— Weber and Beaufort, Fishes Indo
 Austral. Archip., vol. 5, p. 30, 1929
(copied).

1131

Depth $5\frac{1}{3}$ to $5\frac{3}{4}$; head $4\frac{1}{6}$ to $4\frac{1}{4}$, width $1\frac{3}{5}$ to $1\frac{4}{5}$. Snout to eye $3\frac{1}{5}$ to $3\frac{1}{2}$ in head; eye ~~about~~ 5, 1 to $1\frac{1}{4}$ in snout, 1 to $1\frac{1}{8}$ in interorbital; orbit 4 in head, 1 in snout, $1\frac{1}{5}$ times interorbital; preoral short, little inclined, length $5\frac{1}{2}$ in head; maxillary reaches $\frac{1}{3}$ to $\frac{1}{2}$ in eye, length from front eye $3\frac{1}{10}$ to $3\frac{3}{15}$ in head; mandibular barbel $1\frac{2}{5}$ to $1\frac{1}{2}$ in eye; teeth in villiform bands in jaws, of 5 to 7 irregular transverse series, upper outer row slightly enlarged; interorbital 4 to $4\frac{1}{8}$ in head, low, nearly level, at least forward. Gill rakers 0 or 1 + 5 or 6, low spinescent tubercles; $\frac{1}{2}$ of gill filaments, which $2\frac{2}{3}$ to $3\frac{1}{3}$ in orbit.

Scales (pockets) 83 to 106 in

25

double concave, sometimes double
concave. Paired fins rather small;
ventral with spine and 5 rays.

Eastern Pacific, Southern Africa
and Australia. Besides the genera
of the Indo Pacific region are the
American Medialuna Jordan and Fesler
and Parapsettus Steindachner.

Analysis of the genera.

a. Coloration largely uniform, at least without
longitudinal or oblique dark bands.

b. Fins more or less scaled, at least
soft vertical fins.

c. Caudal well forked.

d. All dorsal spines joined by membranes.

e. Dorsal spines graduated to last,
which longest, lower than first dorsal
rays; pectoral longer than ventral;
mouth moderate.

Scorpius

f. Median dorsal spines longest; pectoral

in lateral line; 6 above, 15 to 17 below, 38 predorsal of which 15 forward to hind orbital edge. Scales with 9 to 13 irregular rows of slender spinules, last extend behind scale edge; circuli moderate, complete.

D. II, 11-60, second simple ray slender, ~~simple~~ front edge with row of antrorse spinules, length $1\frac{2}{5}$ to $2\frac{1}{8}$? in head; interdorsal space $4\frac{1}{5}$ to $4\frac{1}{4}$; A. 70, fin height 3 to 4; pectoral rays I, 21, fin 2 in head; ventral rays I, 8, first simple ray ends in long filament, slightly longer than head.

Largely uniform brown. Under surface of head, breast and belly darker than above, inclining to

24

Family Scopidae.

Body strongly compressed, usually moderately deep, ovate to nearly orbicular. Snout moderate. Mouth cleft ^{moderate} or small. Maxillary sometimes ^{well} exposed, ^{without supplemental bone.} jaws with bands of teeth, outer row at least enlarged, sometimes incisor like. Minute teeth on palate usually. Preopercle serrated or denticulate. Gill openings lateral. Gill rakers lanceolate. Pseudobranchiae present. Branchiostegals 7. Air bladder present. ^{Vertebrae 25, of which 15 caudal.} Pyloric appendages numerous or moderate. Scales usually small and ctenoid, cover body and most of head, usually cover soft parts of vertical fin. Lateral line complete. Dorsal with 9 to 15 spines, usually graduated to last which longest; rays 11 to 30. Anal with 3 spines and 10 to 30 rays. Caudal lunate or

blackish brown. Branchiostegal
region blackish brown. Iris gray.
Inside mouth gray. Inside gill
opening blackish brown. Fins all
brownish.

U. S. N. M., No. 72937.

Albatross Collection (D. 5608). Length
187 ~~mm.~~ mm.

U. S. N. M., No. 78237.

Albatross Collection (D. 5608). Length
170 mm. to end of broken tail.
Paratype.

23

Antigonia roa Gilbert.

Antigonia roa Gilbert, Bull. U.S. Fish
Comm., vol. 23, pt. 2, 1903 (1905), p.
621, plate 80, fig. 1. Pailolo Channel,
Hawaii, in 122 to 138 fathoms.

Differs from Antigonia caprea in
the greatly longer dorsal spine, which
about half length of combined head
and body or at least longer than head.

We have examined the following:

② 51543 U.S.N.M. Hawaii. Albatross Collection. Type.
51686 U.S.N.M. Hawaii. Albatross

Collection. Length 33 to 77 mm. 7 examples.

Paratypes.

51685 U.S.N.M. Hawaii. Albatross

Collection.

1134

Coryphaenoides albatrossus (Townsend and Nichols)

Macrourus albatrossus Townsend and Nichols, Bull. Amer. Mus. Nat. Hist., vol. 42, p. 17, 1925 (type locality: lat. ^{N.} 31° W., southward of San Diego, California, in 1076 fathoms). — Jordan,

Evermann, Clark, Rep. U. S. Comm. Fisher., pt. 2, p. 206, 1928 (1930) (reference).

Depth $6\frac{3}{4}$?; head $5\frac{2}{5}$?, width 2. Snout to eye $4\frac{1}{2}$ in head; eye $3\frac{3}{4}$, 1 in snout, $1\frac{1}{4}$ times interorbital; orbit 3 in head, twice snout, twice interorbital; maxillary reaches opposite $\frac{1}{2}$ of orbit, length from front end $2\frac{1}{8}$ in head; mandibular symphysis with small knob protruding below; mandibular barbel?; interorbital $6\frac{4}{5}$ in head, low, nearly level. Gill rakers 2+9, low spinulose knobs, $2\frac{1}{2}$ in gill filaments, which $\frac{1}{3}$ of orbit.

Scales 120?, though only 60 counted

far as intact portion of tail; 9 above,
17 below, 25 predorsal forward
until opposite hind edge of orbit.
Scales with 6 or 7 nearly parallel
apical keels, spinuliferous, last
spinules not extending behind scale
edge; circuli fine, complete.

D. II , 11 — 100? at least, second simple
ray slender, pungent, front edge with
row of small antrorse serrae, length
 $1\frac{4}{5}$ in head; interdorsal space $1\frac{2}{3}$
in orbit; A. 80? or more, fin height
 $1\frac{1}{2}$? in orbit; pectoral rays I , 14,
fin $1\frac{2}{3}$ in head; ventral rays I , 9,
fin $1\frac{2}{3}$.

Dark brown generally, scale pockets
all darker and form reticulated
pattern. Iris dark gray. Inside
mouth and gill opening dark gray.
Fins dark, more or less dusky.

Off California.

U.S.N.M., No. 87555.

In 1056 fathoms April 25, 1911.
Albatross Collection (D. 5692).

Length 470? mm, tail broken. Type.

21
3726 to 3729 (D. 5371). Yayabas Lt.
(outer). February 24, 1909. Length 33 to
53 mm.

4022 to 4024 (D. 5369). Yayabas Lt.
(outer). February 24, 1909. Length 37 to
58 mm.

U.S.N.M.

50803₁ Suruga Bay, Japan. Albatross
Collection. Length 155 mm.

50804 U.S.N.M. Totomi Bay. Albatross
Collection. Length 52 to 103 mm. 6 examples.

51030 U.S.N.M. Hawaii. Bureau of Fisheries. Adult.

57588 U.S.N.M. Japan. F. L. Jony.

Length 96 to 104 mm. 2 examples.

75465 U.S.N.M. Misaki, Japan.

Length 36 to 82 mm. 8 examples. All

these Japanese specimens reported as
Antigonina rubescens.

1137

Coryphaenoides affinis Günther

Coryphaenoides affinis Günther, Ann.
Mag. Nat. Hist., ser. 5, vol. 2, p. 27,
1878 (type locality: deep sea east
of mouth of Rio Plata, 1900 fathoms);
Rep. Voy. Challenger, vol. 22, p. 151, pl.
40, fig. B, 1887 (types).

Hematomus affinis Goode and Bean,
Oceanic Ichth., p. 416, 1895 (copied).

— Garman, Mem. Mus. Comp. Zool.,
vol. 24, p. 395, 1899 (reference). —

Gilbert and Hubbs, Proc. U. S. Nat. Mus.,
vol. 51, p. 43, 1916 (reference).

Maerurus (Hematomus) affinis Brauer,
Deutsch. Tiefsee Exped. Valdivia, vol.
15, p. 391, 1906 (reference).

1138

Coryphaenoides altipinnis Günther

Coryphaenoides altipinnis Günther,
Ann. Mag. Nat. Hist., ser. 4, vol. 20,
p. 439, 1877 (type locality: south of
Yeddo, Japan, in 565 to 1875 fathoms).

— Goode and Bean, Oceanic Ichth., p. 402,
1895 (name). — Garman, Mem. Mus.
Comp. Zool., vol. 24, p. 396, 1899 (reference).

— Jordan and Snyder, Annot. Zool. Japon.,
vol. 3, p. 120, 1901 (compiled). —

Jordan, Tanaka, Snyder, Journ. College
Sci., Tokyo, vol. 33, p. 416, 1913
(compiled). — Gilbert and Hubbs,
Proc. U. S. Nat. Mus., vol. 51, p. (144)
162, 1917 (reference).

Macurus altipinnis Günther, Rep.
Voy. Challenger, vol. 22, p. 138, pl. 39,
fig. 11, 1887 (type).

1139

Coryphaenoides anguliceps (Garman)

Macrurus anguliceps Garman, Mem.
Mus. Comp., Vol. 24, p. 212 (397), pl. G,
fig. 1, pl. L (skull), pl. 83, fig. 2
(lateral system), 1899 (type locality:
lat. $5^{\circ}56'N$, long. $85^{\circ}10'30''W$, in 1175
fathoms; Gulf of Panama; east of
Galapagos; Gulf of California; in
695 to 1322 fathoms).

Macrurus (Macrurus) anguliceps Brauer,
Deutsch. Tiefsee Exped. Valdivia, vol. 15,
p. 390, 1906 (reference).

Macrourus anguliceps Jordan, Evermann,
Clark, Rep. U. S. Comm. Fisher., pt. 2,
p. 206, 1930 (reference).

Coryphaenoides anguliceps Gilbert
and Hubbs, Proc. U. S. Nat. Mus., vol.
51, p. 144, 1916 (reference).

1140

Depth $5\frac{2}{3}$ to $6\frac{7}{8}$; head $4\frac{1}{8}$ to 5,
width $1\frac{7}{8}$ to 2. Snout to eye 3 in
head; eye $4\frac{3}{4}$ to 5, $1\frac{1}{2}$ to $1\frac{3}{4}$ in
snout, 1 in interorbital; orbit $4\frac{2}{5}$
in head, $1\frac{1}{5}$ in snout, $1\frac{1}{5}$ to $1\frac{1}{4}$
times interorbital; preoral profile
concave, length $1\frac{1}{4}$ to $1\frac{2}{5}$ in orbit;
maxillary reaches
in head; mandibular barbel $2\frac{2}{3}$
to $2\frac{3}{4}$ in orbit; teeth in villiform
bands in jaws, - of 5 or 6 irregularly
transversely above with outer row
of slightly enlarged ones, lower
uniform and ⁱⁿ 5 or 6 irregular transverse
rows; interorbital $4\frac{3}{4}$ to $5\frac{2}{5}$ in
head, low, nearly level. Gill rakers
^{on second arch} 1 + 6, low spinose tubercles, $\frac{1}{2}$

10168. Philippines. Length 97 mm.

5845 (D. 5768?). Philippines.

February 25, 1908. Length 35 mm.

10133 to 10135 (D. 5519). Point Tagolo Lt.

August 9, 1909. Length 109 to 141 mm.

3413 to 3416, 3433 (D. 5520). Point

Tagolo Lt. August 10, 1909. Length 58 to 66 mm.

(5515 D.) 3 examples. Point Tagolo Lt.

August 9, 1909. Length 117 to 133 mm.

1365 (D. 5179). Romblon Lt. April 9, 1908.

Length 112 mm.

2912 and 2913 (D. 5372). Tabayas^②

Lt. (outer). February 24, 1909. Length 42 to 57 mm.

3140 (D. 5375). Tabayas Lt. (outer).

March 2, 1909. Length 51 mm.

1141

of gill filaments, which $\frac{1}{3}$ of orbit.
Scales (pockets) 118 in lateral
line; 8 or 9 above, 19 or 20 below,
50 predorsal forward to snout end,
of which 25 forward till opposite
hind eye edge. Scales with 8 or 9
parallel rows of spinules apically,
last extend beyond scale edge;
circuli fine, obsolete apically.

D. II, 8 — 89, second simple ray
slender, front edge with row of
antrorse denticles, length $1\frac{3}{5}$ to $2\frac{3}{5}$
in head; interdorsal space $3\frac{1}{2}$;
A. 92, fin height 7 in head; pectoral
rays I, 16, fin $2\frac{1}{5}$? in head; ventral
rays I, 7, fin $2\frac{3}{4}$, first ray
filamentous.

154
2794 and 2795 (D. 5353). Cape
Melville Lt. ^{light} January 1, 1909. Length
94 to 104 mm.

2099 (D. 5354). Cape Melville Lt.
January 1, 1909. Length 78 mm.

19 examples (D. 5403). Capitanillo Lt.
March 16, 1909. Length 55 to 90 mm.
Some quite rough on head.

3307 to 3310, 5883 (D. 5403).
Capitanillo Lt. March 16, 1909. Length
91 to 101 mm.

1694 to 1698, 1700, 2498 (D. 5408).
Capitanillo Lt. March 18, 1909. Length 60
to 101 mm.

(D. 5409).
8404, 17861 and 17862, Capitanillo Lt.
March 18, 1909. Length 97 to 130 mm.

Brown, darker on head and trunk, especially below. Iris slate. Inside mouth pale, grayish. Inside gill opening blackish. Fins more or less dusky.

Gulf of California, Panama, Galapagos. Garman's colored figure shows longer filaments than those on the first dorsal and ventrals of my specimens.

U. S. N. M., No. 57858. Lat. $5^{\circ}26'20''$ N., long. $86^{\circ}55'$ W., Gulf of Panama, Albatross Collection (D. 3371).

Length 352 to 355 mm. 2 examples.

2495 to 2498 (D. 5273). Corregidor
Lt. July 14, 1908. Length 53 to 60 mm.

1545 to 1547 (D. 5418). Laria Point
Lt. March 25, 1909. Length 83 to 93 mm.

10128 (D. 5501). Macabalan Point-Lt.,
Mindanao. August 4, 1909. Length 133 mm.

2548 and 2549 (D. 5121). Malabrigo Lt.
February 2, 1908. Length 67 to 74 mm.

3235 to 3237, ~~4004~~ (D. 5279). Malavatan
Island. July 17, 1909. Length 51 to 63 mm.

10021 (D. 5278). Malavatan Island.
July 17, 1909. Length 57 mm.

5844 (D. 5168). Observation Island.
February 25, 1908. Length 38 mm.

2073 [1361] (D. 5397). Panalangian
Point, Talajit Island. March 15, 1909.
Length 70 mm.

Coryphaenoides aratum Gilbert

Coryphaenoides aratum Gilbert,
Bull. U. S. Fish Comm., vol. 23, pt. 2,
p. 674, fig. 264, 1903 (1905) (type
locality: off southern Oahu, in 289
to 337 fathoms; Pailolo Channel, in
297 to 306 fathoms). — Gilbert and

Hubbs, Bull. U. S. Nat. Mus., no. 100,
vol. 1, p. (432) 515, 1920 (reference). —

Fowler, Mem. Bishop Mus., vol. 10,
p. 86, 1928 (type).

Coryphaenoides parallelus (not
Günther) Gilbert and Cramer, Proc.
U. S. Nat. Mus., vol. 19, p. 421, 1897
(Hawaiian Islands, in 313 fathoms).

Depth $6\frac{1}{5}$ to $6\frac{1}{2}$; head $3\frac{1}{10}$ to $3\frac{1}{2}$, width 2 to $2\frac{1}{10}$. Snout to eye 2 in head; eye $5\frac{3}{4}$ to $5\frac{7}{8}$, $2\frac{3}{4}$ to 3 in snout, $1\frac{1}{3}$ to $1\frac{2}{5}$ in interorbital; orbit $3\frac{7}{8}$ to $4\frac{3}{4}$ in head, $1\frac{2}{3}$ to $2\frac{1}{4}$ in snout, subequal to slightly greater than interorbital; Maxillary reaches $\frac{3}{5}$ to $\frac{2}{3}$ in eye, length from front end $4\frac{1}{10}$ to $4\frac{1}{3}$ in head; mandibular barbel $\frac{1}{2}$ of eye; teeth in rather broad villiform bands, 6 or 8 irregularly transversely; interorbital 4 to $4\frac{1}{3}$ in head, low, but very little convex. Gill rakers $1+6$ or 7 low spinescent tubercles on second arch, $\frac{1}{4}$ of gill filaments, which $1\frac{2}{5}$ in eye.

Scales 75 in lateral line to pseudocaudal; 6 above, 15 below,

expanded, $1\frac{3}{4}$ to $1\frac{7}{8}$; pectoral $1\frac{1}{4}$ to $1\frac{2}{5}$;
ventral spine $1\frac{1}{4}$ to $1\frac{3}{4}$.

Largely uniform dull or light brown,
with silvery shades, especially about
peritoneum, which shows through body
walls whitish. Sides of head and iris
whitish.

Besides widely distributed in the
Atlantic, where it has been reported
from Barbadoes, Azores, Ascension
Island and Madeira, it is widely
distributed in the Indo Pacific.
Satal, Ceylon, East Indies, Queensland,
Victoria, Japan, Hawaii.

10054. Balikias Bay, Lubang Island.
July 17, 1908. Length 35 mm. (D. 5277.)

1145

10 predorsal forward to occiput and 25 more still forward to snout tip. Scales with 3 to 5 spinuliferous apical beaks, median little enlarged, posterior extending over scale edge; circuli fine, not distinct apically.

D. II, 8 - 64, second simple ray slender, entire, length $2\frac{1}{4}$ to 3 in head; interdorsal space $6\frac{7}{8}$ to $7\frac{1}{5}$; A. 68, fin height $4\frac{1}{5}$ to 6; pseudocaudal usually long as eye; pectoral rays I, 14 or I, 15, length $2\frac{1}{4}$ to $2\frac{1}{2}$ in head; ventral rays I, 6, length 3 to $3\frac{1}{4}$.

Brown, little paler on under surfaces, especially of head below and abdomen. Iris whitish. Inside mouth and gill opening blackish. Fins brownish, first

greater than length in young
Depth 1 to $1\frac{1}{5}$; head $2\frac{1}{2}$ to $2\frac{3}{5}$, width 2 to $2\frac{1}{6}$.
Snout 3 to $3\frac{1}{3}$ in head from snout tip; eye
 $2\frac{2}{5}$ to $2\frac{1}{2}$, greater than snout or interorbital;
maxillary $\frac{2}{5}$ to $\frac{1}{2}$ in snout, $3\frac{1}{2}$ to $3\frac{4}{5}$ in head;
interorbital $3\frac{1}{3}$ to 4, broadly convex.
Gill rakers 5+14, lanceolate, short, $3\frac{1}{2}$ in
gill filaments, which $1\frac{4}{5}$ in eye.

Tubes 52 to 60 in lateral line to caudal
base; 15 scales above lateral line, 43 or 44
scales below. Scales with single row of 19
to 30 apical marginal spines and median
linear cluster of 5 or as 6, 4, 2 and
mostly bifid with age; circuli basal
and fine.

D. VIII to X, 24, I to 29, I, third spine
 $1\frac{1}{6}$ to 2 in total head length, third ray 3 to 4;
A. III, 23, I to 26, I, first spine 2 to 3;
least depth of caudal peduncle $2\frac{7}{8}$ to
 $3\frac{1}{8}$; caudal rounded behind to truncate
with age, also rounded in adult when

1146

dorsal and paired fins more or
less dusky to dark brown.
Hawaiian Islands.

U.S.N.M., no. 51656.

Albatross Collection (D.).
Length 313 mm. Type.

U.S.N.M., no. 51697.

Albatross Collection (D.).
Length 355 to 370 mm. 2 paratypes.

15
Cape Everard, Victoria, in 200 to 250
fathoms.

Coryphaenoides ariommus Thompson

Coryphaenoides ariommus Thompson,
Proc. U. S. Nat. Mus., vol. 50, p. 471,
pl. 5, fig. 1, 1916 (type locality: lat.
 $38^{\circ}8'S.$, long. $75^{\circ}53'W.$, off Lota,
Chile). — Gilbert and Hubbs,

Proc. U. S. Nat. Mus., vol. 51, p. 144,
1917 (reference).

Depth $5\frac{2}{3}$ to 6; head $4\frac{1}{5}$ to $4\frac{1}{4}$,
width $1\frac{4}{5}$ to $1\frac{7}{8}$. Snout to eye $3\frac{1}{8}$
to $3\frac{1}{5}$ in head; eye $4\frac{3}{4}$ to 5, $1\frac{2}{5}$
to $1\frac{3}{4}$ in snout, $1\frac{1}{8}$ to $1\frac{1}{4}$ in
interorbital; orbit $3\frac{1}{4}$ to $3\frac{4}{5}$ in
head, 1 to $1\frac{1}{8}$ in snout, $1\frac{1}{8}$ to $1\frac{1}{5}$
times interorbital; maxillary reaches
 $\frac{1}{4}$ to $\frac{1}{3}$ in eye, length from front
end $3\frac{1}{4}$ to $3\frac{1}{2}$ in head; teeth in
villiform bands in jaws, of 5 or 6
transverse irregular series; interorbital
 $4\frac{1}{8}$ to $4\frac{1}{4}$ in head, low, slightly
depressed. Gill rakers 1+6, low

1148

spinescent tubercles on first arch,
 $\frac{1}{3}$ of gill filaments, which $\frac{1}{3}$ in eye.

Scales (pockets) 110 to 120 in lateral line; 7 or 8 above, 20? below, 20 predorsal forward to occiput which at first fourth between hind orbital edge and first dorsal origin. Scales with 3 or 4 (9 to 11 according to Thompson) nearly parallel rows of spinules, rarely extending beyond hind scale edge; circuli moderate, complete.

D. II, 8 - 84, second slender simple ray with row of antrorse spinules along its front edge, first branched ray about $\frac{1}{2}$ of head; interdorsal space $2\frac{7}{8}$ to $4\frac{1}{2}$; A. 77 to 80, fin height $4\frac{1}{4}$?; pectoral fin rays I, 20, fin $1\frac{4}{5}$? in head; ventral fin I, 8, fin $2\frac{1}{8}$ to $2\frac{2}{5}$.

Brownish to drab. Head pale to whitish. Inside mouth pale.

1149

Iris whitish or grayish. Inside
-gill opening blackish. Fins all
brownish.

Off Chile. My materials, all
in rather poor conditions, so
proportions of fins very unsatisfactory,
also squamation.

U. S. N. M., no. 76859. Lat. $38^{\circ}8'S$,
long. $75^{\circ}53'W$.

Albatross Collection (D. 2791).

Type. (Length 247 mm.)

U. S. N. M., no. 76891.

Albatross Collection (D. 2791). Length
241? to 337? mm. 5 examples.

Paratypes.

Comm., vol. 23, pt. 1, 1903 (1905), p. 361,
plate 45 (Kailua and Hilo).

Antigonia malayana Weber, Siboga
Exped., vol. 65, 1913, p. 299, fig. 69. Urafa
Sea ($5^{\circ} 28' 4''$ N. B., $132^{\circ} 0' 2''$ O. L., in 204
m.; $5^{\circ} 48' 2''$ N. B., $132^{\circ} 13'$ O. L., in 304 m.).

Antigonia fowleri Franz, Abhand. K.
Akad. Bayern, heft 4 (1), 1910, p. 54.

Tagami Bay, Oyushi, Misaki, Aburatsubo.

Antigonia rubicunda Ogilby, Proc. Roy.
Soc. Queensland, vol. 22, 1910, p. 103.

Off North Reef, Queensland. — McCulloch,
Rep. Fish. Endeavour, pt. 3, ap. 21, 1915,
p. 113, plate 18, fig. 2 (13 miles N. 50° East
of North Reef, Queensland, in 70 fathoms).

Antigonia rhomboidea McCulloch, l.c., p.
111, plate 18, fig. 1. Between Gabo Island and

Coryphaenoides armatus (Hector) 1150

Macrurus armatus Hector, Trans. New Zealand Inst., vol. 7, p. 249, pl. 11, fig. 78a, 1873 (1874) (type locality: off Cape Farewell, in 400 fathoms). —

Günther, Rep. Voy. Challenger, vol. 22, p. 150, pl. 40, fig. A, 1887 (between the Cape and Kerguelen Island; South Pacific; mid-Pacific; type; in 400 to 2425 fathoms). —

Macrurus (hematonurus) armatus Brauer, Deutsch. Tiefsee Exped. Valdivia, vol. 15, p. 391, 1906 (reference). —

Murray and Hjort, Depths of the Ocean, p. 1, 1912 (off Gibraltar; Canaries; Azores; 1424 to 2570 fathoms). —

Hematonurus armatus Goode and Bean, Oceanic Ichth., p. 416, 1895 (names). —
Garman, Mem. Mus. Comp. Zool., vol. 24, p. 395, 1899 (reference). — Waite,

1151

Rec. Canterbury Mus., vol. 1, no. 1,
p. 17, April 25, 1907 (reference). —
Gilbert and Hubbs, Proc. U. S. Nat.
Mus., vol. 51, p. 143, 1916 (reference).

Coryphaenoides variabilis Günther,
Ann. Mag. Nat. Hist., ser. 5, vol. 2,
p. 27, 1878 (type locality: midway
between Cape of Good Hope and
Kerguelan Land; south of Australia;
mid-Pacific; south west of Juan
Fernandez; 135 to 2425 fathoms).

Coryphaenoides gigas Vaillant, Exped.
Sci. Travailleur et Talisman, Poiss.,
p. 232, pl. 20, fig. 2, 1888 (type
locality: between Azores and France,
4165 to 4255 meters). — Garman,
Mem. Mus. Comp. Zool., vol. 24, p.

13

Antigonia rubescens Jordan and Fowler,
Proc. U. S. Nat. Mus., vol. 25, 1903, p.
523, fig. 2 (Suruga Bay, Totomi Bay,
Misaki, in 34 to 64 fathoms). — Weber,
Siboga Exped., vol. 65, 1913, p. 299
(Arafura Sea, in 204 to 304 fms?). —
Gilchrist, South Af. Fisher. Marine
Biol. Surv., no. 2, 1921 (1922), p. 74
(west coast of South Africa).

Antigonia mülleri Klunzinger, Sitzb.
Akad. Wiss. Wien, band 80, 1879, p.
380, plate 5, fig. 3. "New Zealand".

Antigonia steindachneri (Jordan and
Evermann) Jordan and Fowler, Proc. U.
S. Nat. Mus., vol. 25, 1903, p. 522. Hilo,
Kailua and Honolulu, Hawaiian Islands.
— Jordan and Evermann, Bull. U. S. Fish.

396, 1899 (reference).

Hematonurus gigas (Goode and Bean),
Oceanic Ichth., p. 416, 1895 (copied).

— Roule, Bull. Inst. Océan. Monaco,
No. 320, p. 21, May 20, 1916 (off Azores,
3020 meters). — Gilbert and Hubbs,
Proc. U. S. Nat. Mus., vol. 51, p. 143,
1917 (reference). — Roule, Rés. Camp.
Sci. Monaco, vol. 2, p. 87, pl. 3, figs.
1-a, 1919 (50 miles north of Sao
Miguel, 3020 meters). — Vaillant,
Rés. Camp. Sci. Monaco, vol. 52, p.
134, 1919 (lat. 34° ^{to} 38° N., long. 8° to 23° W.,
3610 to 4020 meters).

Macrurus (Hematonurus) gigas Brauer,
Deutsch. Tiefsee Exped. Valdivia, vol.
15, p. 391, 1906 (reference).

12
fathoms). — Fowler, Proc. Acad. Nat. Sci. Phila., 1925, p. 250 (Natal coast, in 40 fathoms).

Caprophonus aurora Müller and Troschel, Horae Ichth. Zool., vol. 3, 1849, p. 28, plate 5, fig. 1. Barbados.

Hypsinothus benhalatute Bleeker, Verh. Batav. Genoot. (Nal. Ich. Japan), vol. 25, 1853, p. 13. Japan.

Hypsinothus rubescens Günther, Cat. Fish. Brit. Mus., vol. 2, 1860, p. 63 (on Hypsinothus ^{Fann. Japon. Poiss.; dec.} Schlegel, V-VI, 1844, p. 84, plate 42, fig. 2. Nagasaki). — Günther, Rep. Voy.

Challenger, vol. 1, 1880, p. 44 (Japan, Celebes, Ki Island). — Meyer, Ann.

Soc. Espan. Hist. Nat. Madrid, vol. 14, 1885, p. 18 (Manado, Celebes).

115-3

Coryphaenoides asper Günther

Coryphaenoides asper Günther, Ann.
Mag. Nat. Hist., ser. 4, vol. 20, p. 440,
1877 (type locality: south of
Philippines and Japan, 1875 fathoms).

— Gilbert and Hubbs, Proc. U.S. Nat.
Mus., vol. 51, p. 144, 1916 (reference).

Macurus asper Goode and Bean,
Bull. Mus. Comp. Zool., vol. 10, no. 5,
p. 196, 1883 (). —

Jordan, Rep. U.S. Fish Comm., pt. 13, p.
919, 1885 (1887) (reference). — Günther,

Rep. Voy. Challenger, vol. 22, p. 137, pl. 36,
fig. A, 1887 (type). — Goode and Bean,

Oceanic Ichth., p. 390, 1895 (reference). —
Garman, Mem. Mus. Comp. Zool., vol.
24, p. 396, 1899 (reference).

1154

Macrurus (Macrurus) asper Brauer,
Deutsch. Tiefsee Exped. Valdivia, vol.
15, p. 390, 1906 (reference).

Macrurus asper Jordan and Snyder,
Annot. Zool. Japon., Tokyo, vol. 3,
p. 120, 1901 (south of Japan). —

Jordan, Tanaka, Snyder, Journ. College
Sci., Tokyo, vol. 33, p. 417, 1913
(compiled).

Depth $4\frac{3}{5}$ to $7\frac{3}{5}$; head $4\frac{3}{5}$ to $5\frac{3}{5}$,
width $1\frac{3}{5}$ to $1\frac{5}{6}$. Snout to eye $3\frac{1}{8}$ to
 $4\frac{1}{5}$ in head; eye $6\frac{2}{5}$ to $8\frac{1}{5}$, $1\frac{7}{8}$ to 2
in snout, $1\frac{2}{5}$ to 2 in eye; orbit $5\frac{1}{4}$
to $5\frac{7}{8}$ in head, $1\frac{1}{3}$ to $1\frac{2}{5}$ in snout,
 $1\frac{1}{3}$ to $1\frac{1}{2}$ in interorbital; preoral
length vertically inclined, little less
than orbit; maxillary extends little
behind eye or orbit with age, in
young about $\frac{4}{5}$ in eye, length from
front end $2\frac{2}{3}$ to $2\frac{4}{5}$ in head; teeth
in very narrow bands or uniserial

in young, apparently more or less biserial with age and lower ones larger; mandibular barbel about long as eye; interorbital $4\frac{1}{6}$ to $4\frac{1}{2}$ in head, low and broadly convex. Gill rakers 1 or 2 + 10 short low tubercles, $\frac{1}{3}$ of gill filaments which $1\frac{1}{3}$ in eye.

Scales 110 to 120? in lateral line; 9 or 10 above, 19 to 21 below, 40 to 44 predorsal of which 20 to 23 extend forward to eye. Scales with 7 to 14 apical parallel ridges, greater number with age; only in young does terminal spine of each extend beyond scale edge; circuli rather coarse, parallel, basal.

11

Antigonina caprea Lowe.

Antigonina caprea Lowe, Proc. Zool. Soc.

London, vol. 2, 1843, p. 85. Madeira. —

Günther, Cat. Fish. Brit. Mus. ^{vol.} 2, 1860, p.

497 (copied). — Steindachner, Denks.

Abad. Wiss. Wien, ^{vol.} band 4, heft 1, 1879, p.

10 (Yokohama). — Steindachner and

Döderlein, l.c., ^{vol.} band 49, abth. 1, 1885, p. 187,

plate 5 (Tokyo). — Günther, Rep. Voy.

Challenger, vol. 22, 1887, p. 44 (Madeira,

Barbados, Manado, Ki Islands, in 129

fathoms). — Goode and Bean, Acun.

Ichth., 1895, p. 229, fig. 235 (copied). —

Ishikawa and Matsuura, Prelim. Cat.

Fish. Mus. Tokyo, 1897, p. 41. — Alcock,

Journ. Asiatic Soc. Bengal, vol. 65, pt.

2, 1896, p. 316 (off Ceylon, in 296 to 320

D. II, 8 or II, 9 — 78, second simple ray with row of antrorse spines along front edge, length $1\frac{2}{5}$ to $1\frac{3}{5}$ in head; interdorsal space $1\frac{1}{2}$ to 2; A. 75, fin height $2\frac{2}{3}$; pectoral rays I, 18, fin length $1\frac{3}{5}$ to $1\frac{3}{4}$ in head; ventral I, 9, fin $1\frac{3}{4}$ to $1\frac{4}{5}$.

Uniform brown, gill openings and opercles often darker. Inside mouth and gill opening dark or dusky. Eyes grayish. Fins brown, like back, often with dark shadings.

Eastern Pacific. My examples differ from Günther's figure as he shows the pectorals reaching nearly to anal, dorsal and ventral extending well beyond the anal and the interdorsal space small

30

Scorpius aequipinnis Richardson.

Scorpius aequipinnis Richardson, Voy. Erebus and Terror, Ichth., 1844-48, p. 121. King, George's Sound, Australia. — Günther, Cat. Fish. Brit. Mus., vol. 2, 1860, p. 64 (Swan River, type). — Günther, Ann. Mag. Nat. Hist., vol. 20, series 3, 1867, p. 58 (Swan River, King George's Sound). — McCulloch, Records Austral. Mus., vol. 11, no. 7, 1917, p. 177, fig. 2 (Freemantle and Adelaide).

Scales very fine, especially on head and breast. Ends of dorsal spines only slightly free from scaly base. Soft dorsal and anal with slight though distinct anterior lobe. Reaches 323 mm. according to McCulloch.

South and South-western Australia.

or $3\frac{2}{3}$ in head. In my large specimen though the low second dorsal begins behind the anal, the depressed dorsal fin reaches $1\frac{2}{5}$ to it or not quite opposite anal origin and the ventral reaches only $1\frac{2}{5}$ to the anal. Its caudal also 3 in head.

31

Scorpius lineolatus Kner.

Scorpius lineolatus Kner, Reise. Novara,
Fische, 1865, p. 108, plate 5, fig. 3.

Sydney. — McCulloch, Records Austral.
mus., vol. 11, no. 7, 1917, p. 178 (New South
Wales). — McCulloch, Australian Zool.,
vol. 2, pt. 3, 1922, p. 70, plate 26, fig. 227a
(New South Wales).

Scorpius aequispinnis (non Richardson)

Günther, Cat. Fish. Brit. Mus., vol. 2, 1860,
p. 64 (Port Jackson). — Bleeker, Nat.

Gydenburg, Diels., reel 2, 1865, p. 70 (Port

Jackson). — Steindachner, Sitzb. Akad. Wiss.
Wien, band 53, heft 1, 1866, p. 436 (Port Jackson).

— Steindachner, l.c., band 56, heft 1, 1867, p.

334 (Port Jackson). — ^{Günther, Ann. Mag. Nat. Hist., vol. 29, series 3,}
Stead, Edible Fish
1867, p. 58 (New South Wales and Sydney).
~~New South Wales, 1908, p. 79.~~ — Castelnau,

Proc. Linn. Soc. New South Wales, vol. 3, 1879,
p. 376 (Port Jackson). — Macleay, Proc.

U. S. N. M., no. 33274.

1158

Length 320 mm.

U. S. N. M., no. 33276.

Length 346 mm.

U. S. N. M., no. 33302.

Length 347 mm.

U. S. N. M., no. 33303.

Length 320 mm.

U. S. N. M., no. 33392.

Length 336 to 377 mm. 3 examples.

pectoral base, close together, each with strong spine.

differs from Atypichthys Günther in the large mouth and large maxillaries.

Atyposoma gurneyi Boulenger.

Atyposoma gurneyi Boulenger, Ann. South Af. Mus., vol. 1, 1899, p. 379, plate 9. False Bay, Cape of Good Hope.

Depth $2\frac{1}{2}$; head $3\frac{2}{3}$. Snout 3 in head from snout tip; eye 5, $1\frac{3}{4}$ in snout, $1\frac{1}{2}$ in interorbital; maxillary reaches opposite first third in eye, expansion $\frac{3}{4}$ of eye, length $1\frac{4}{5}$ in head. Scales 150 in lateral line, ^{scales} tubes 70, 25 above, 60 below. D. XI, 17, begins over ventral base, fifth spine 3 in total head length, longer than rays; A. III, 14, third spine 4; caudal forked, equals head; least depth of caudal peduncle $3\frac{3}{4}$;

U.S.N.M., no. 38082.

Length 250 to 313 mm.

U.S.N.M., no. 38100.

Length 250 to 270 mm. 3 examples.

U.S.N.M., no. 38102.

Length 257 mm.

U.S.N.M., no. 38104.

Length 503 mm.

U.S.N.M., no. 38161.

Length 660 mm.

38

Genus Atyposoma Boulenger.

Atyposoma Boulenger, Ann. South
Af. Mus., vol. 1, 1899, p. 379. Type
Atyposoma gurneyi Boulenger,
monotypic.

Body compressed. Mouth large, moderately
protractile and jaws equal. Maxillary
large, exposed. Jaws each with small
villiform teeth forming band. Preopercle
very finely serrated. No opercular spine.
Gill membranes separate. Gill rakers
very long. Branchiostegals 7. Scales small,
finely ciliated. Soft dorsal and anal
thickly covered with small scales. Lateral
line complete. Dorsal single, with 11 spines
and 17 rays, spinous fin shorter.
Anal with 3 spines and 14 rays. Caudal
forked. Pectoral rays 17, asymmetrical
rounded, upper longest. Ventral behind

U. S. N. M., No. 38169.

1160

Length 333 mm.

U. S. N. M., No. 38203.

Length 330 mm.

U. S. N. M., No. 45876.

Length 487 mm. Large perinean on side.

U. S. N. M., No. 45878.

Length 330 mm.

U. S. N. M., No. 45879.

Length 265 mm. 2 examples.

Scales about 85 along lateral line.
Dorsal spines rather short, well graduated
up to last. Soft dorsal and anal with
rather high anterior lobes, at least
 $\frac{3}{4}$ base of either fin. Brown, with 2 dark
broad diffuse cross bands on back.

Reaches 277 mm. according to Mc Culloch.

South-western Australia, Tasmania?

U.S.N.M., no. 45881.

1161

Length 446 mm.

U.S.N.M., no. 45882.

Length 343 mm.

U.S.N.M., no. 45883.

Length 243 to 283 mm. 2 examples.

U.S.N.M., no. 45880.

Length 442 mm.

U.S.N.M., no. 45884.

Length 214 to 305 mm. 2 examples.

Scorpius georgianus Valenciennes.

Scorpius georgianus Valenciennes, Hist.
Nat. Poiss., vol. 8, 1831, p. 371, plate 245.
Port King George, Australia. — Richardson,
Voy. Erebus and Terror, Ich., 1844-48,
p. 121 (copied). — Günther, Cat. Fish.
Brit. Mus., vol. 2, 1860, p. 64 (Australia).
— Klunzinger, Sitzb. Akad. Wiss. Wien,
band 80, Heft 1, 1879, p. 364 (King George's
Sound). — Macleay, Proc. Linn. Soc. New-
South Wales, vol. 5, 1881, p. 397 (King
George's Sound). — Johnston, Proc. Roy.
Soc. Tasmania, 1882 (1883), p. 111; l.c.,
1890 (1891), p. 30. — Waite, Records
Austral. Mus., vol. 6, pt. 2, 1905, p. 64
(Mandurah). — McCulloch, Records
Austral. Mus., vol. 11, no. 7, 1917, p. 176
(Albany and Freemantle, south-west
Australia)

1162

Coryphaenoides asprellus (Smith and Radcliffe)

Macrourus asprellus Smith and Radcliffe,
Proc. U. S. Nat. Mus., vol. 43, p. 118, pl.
26, fig. 1, 1912 (type locality: south
east of Bachian Island, Dutch East
Indies, in 845 fathoms).

Coryphaenoides asprellus Gilbert and
Hubbs, Bull. U. S. Nat. Mus., no. 100,
vol. 1, p. 410, 1920 (type). — Weber and
Beaufort, Fishes Indo Austral. Arch.,
vol. 5, p. 33, 1929 (compiled).

Depth $5\frac{4}{5}$? (tail mutilated);
 head $4\frac{3}{5}$, width $2\frac{1}{8}$. Snout ^{to eye} $4\frac{1}{4}$ in
 head; eye 4, 1 in snout, $1\frac{1}{6}$ in
 interorbital; ~~orbit~~ maxillary reaches
 $\frac{3}{4}$ in eye, length from front end
 3 in head; barbel 2 in eye; teeth
 in villiform bands in jaws, 5 or 6
 irregularly in transverse series;
 interorbital $3\frac{1}{2}$ in head, low,
 broadly convex. Gill rakers 8+6, low
 spinose tubercles on first arch,
 $\frac{1}{3}$ of gill filaments, which $2\frac{1}{5}$ in
 eye.

Scales 100 in lateral line; 6
 above, 17? below, 15 or 16 predorsal
 forward to occiput. Scales with 13
 or 14 parallel rows of apical
 spinules, last extending beyond
 scale edge; circuli fine, complete.

D. II, 9 - 71, second simple ray

41

Genus Tilodon Thomiot.

Tilodon (Guichenot) Thomiot, Bull. Soc.
Philomath. Paris, vol. 5, series 7, 1881, p. 140.
Type Tilodon australis (Guichenot)
Thomiot, monotypic.

Body elongate, elevated, compressed.
Front profile concave. Teeth long and
fine in both jaws. Snout obtuse.

Preopercle denticulate, not spinous.
Scales small, finely ciliated. Dorsals
continuous, first 6 spines free and
remaining 3 joined. Soft vertical fin
scaled nearly to edges.

slender, front edge with row of small antrorse serrae, length $1\frac{1}{2}$? in head; interdorsal space $5\frac{2}{3}$; A. 70, fin height $3\frac{4}{5}$?; pectoral rays I, 19, fin $1\frac{4}{5}$? in head; ventral rays I, 7?, fin $2\frac{1}{5}$?

Uniformly brown. Iris dark to blackish brown. Lips rather light brown. Branchiostegal region and inside gill opening blackish brown. Inside mouth dark. Fins all blackish brown.

East Indies.

U. S. N. M., No. 72935. Selang Point (Bachian Island), N. 56° W., 12.5 miles (lat. $1^{\circ}00'00''$ S., long. $127^{\circ}50'00''$ E.), south of Patente Strait. In 845 fathoms. December 2, 1909. Albatross Collection (D. 5632). Length 413 mm. Type.

pectoral 2; ventral $1\frac{7}{8}$. Silvery.
Back dark purplish gray. Lateral
line, dorsal, anal and caudal
blackish, tips of highest dorsal spines
white. Pectoral gray. Ventral
white. Length 450 mm. (Boulenger.)

1165

Coryphaenoides atherodon (Gilbert and Cramer)

Optonurus atherodon Gilbert and Cramer,
Proc. U. S. Nat. Mus., vol. 19, p. 431, pl.
46, fig. 1, 1896 (type locality: Hawaiian
Islands, 298 to 343 fathoms).

— Garman, Mem. Mus. Comp. Zool., vol.
24, p. 395, 1899 (reference). — Gilbert,
Bull. U. S. Fish Comm., vol. 23, pt. 2,
p. 663, 1903 (1905) (Pailolo Channel,
off Oahu; Bird Island; Kauai;
off Hawaii; Maui; Kaiwi Channel,
165 to 513 fathoms).

Macurus (Optonurus) atherodon Brauer,
Deutsch. Tiefsee Exped. Valdivia, vol. 15,
p. 390, 1906 (reference).

Lionurus atherodon Gilbert and Hubbs,
Proc. U. S. Nat. Mus., vol. 51, p. 145, 1916
(reference).

1166

Ventrifossa atherodon Gilbert and
Hubbs, Bull. U. S. Nat. Mus., no. 100, vol. 1,
p. 544, 1920 (diagnosis in key). —
Fowler, Mem. Bishop Mus., vol. 10, p.
87, 1928 (compiled).

Depth $5\frac{3}{4}$ to 8; head $4\frac{2}{5}$ to $5\frac{2}{5}$,
width $1\frac{3}{5}$ to $2\frac{1}{4}$. Snout $3\frac{7}{8}$ to $4\frac{1}{4}$ in
head; eye 3 to $3\frac{1}{2}$, greater than snout
or interorbital; maxillary reaches $\frac{1}{2}$ to
 $\frac{2}{3}$ in eye, length from front end 2 to $2\frac{1}{5}$
in head; preoral length short;
mandibular barbel slender, $1\frac{1}{2}$ to $1\frac{2}{3}$
in eye; teeth in villiform bands in jaws,
upper band little wider and outer row
little enlarged; interorbital $4\frac{1}{4}$ to $4\frac{4}{5}$
in head, low, nearly level or uneven
with few depressions. Gill rakers 2+15,
low spinescent knobs on second arch,
 $\frac{1}{3}$ of gill filaments, which $\frac{1}{3}$ of eye.

Scales 168? in lateral line; 10
above, 17 below, 4 $\frac{1}{2}$ predorsal. Scales
mostly all fallen, very deciduous,
rough velvety to touch and equally

large on head as on body. Scales with group of small simple spinules 20 or more apically; circuli rather fine.

D. II, 9 to II, 11 — 157?, second simple ray slender, smooth, at least $\frac{1}{2}$ in head; interdorsal space $1\frac{1}{2}$ to $2\frac{1}{4}$; A. 155?, fin higher than low second dorsal; sometimes small short pseudocaudal; pectoral rays I, 19 to I, 22, fin $1\frac{2}{3}$ to $1\frac{4}{5}$ in head; ventral rays I, 9, fin 3 to $3\frac{1}{5}$.

Brown generally, becomes leaden to neutral gray on lower half of head, breast and belly, even neutral black below. Iris gray. Inside mouth whitish, gill opening blackish. Jaw edges dark. Fins brownish, bases of paired fins

35

Scorpius oblongus Canestrini.

Scorpius oblongus Canestrini, Arch. Zool.
Anat. Fisiol., vol. 1, series 2, 1869, p. 153.
Australia. — McCulloch, Records
Austral. Mus., vol. 11, no. 7, 1917, p. 180
(copied).

Depth 3; head 4. Eye $3\frac{4}{5}$ in head. D. IX,
30; A. III, 23. Dorsal and anal not elevated
anteriorly. Back brown, silvery below.
(Canestrini.)

nearly neutral black.
Hawaiian Islands.

U. S. N. M., No. 44489.

Length 320 to 368 mm. 2 examples.

U. S. N. M., No. 47714.

Albatross Collection (D. 3470).

Length 148 to 198 mm. 7 examples.

U. S. N. M., No. 47703.

Albatross Collection (D. 3471). Length 208 mm.

U. S. N. M., No. 47705.

Albatross Collection (D. 3476). Length 130 to
168 mm. 3 examples.

34

Scorpius violaceus (Hutton).

Stitrema violacea Hutton, Trans. New Zealand
Inst., vol. 5, 1873, p. 261, plate 8, fig. 31 b.
Wellington.

Heptotichthys violacea Hutton, l.c., vol.
12, 1889 (1890), p. 278 (note). — Waite,

Proc. Linn. Soc. New South Wales, vol. 22,
1897 (1898), p. 685 (Sydney, Port Jackson).

Scorpius violaceus Waite, Mem. New South Wales

U. S. N. M., No. 47729.

1169

Albatross Collection (D. 3474). Type 350 mm.
Length 145? to 330 mm. 5 paratypes.
U. S. N. M., No. 55240.

Albatross Collection. Length 150 to 315
mm. 12 examples.

U. S. N. M., No. 55241.

Albatross Collection ().

Length 140 to 330 mm. 20 examples.

U. S. N. M., No. 55263.

Albatross Collection ().

Length 178 to 269 mm. 6 examples.

Austral. Mus., vol. 11, no. 7, 1917, p. 179
(Norfolk and Lord Howe Islands).

Scales about 89 along lateral line.
Dorsal rays 27 to 29, anal 25 to 27.
According to McCulloch it is further
separated from Scorpa lineolatus in the
much more convex profile of the head. ^{Reaches 230 mm.}

New Zealand, Norfolk Island, Lord Howe Island,
New South Wales.

Museum. 2 examples. Length 143 to 160? mm.

Wales. H. S. Stead. 6 examples.

Length 100 to 122 mm.

29001 U.S.N.M. North Mt. Macleay.

Austral. Mus., vol. 11, no. 7, 1917, p. 179

170

Coryphaenoides awae Jordan and Gilbert

Coryphaenoides awae Jordan and Gilbert,
Bull. U. S. Fish Comm., vol. 22, p. 608,
fig., 1902 (1904) (type locality: off
Hanaura in Suwa, entrance to Tokyo
Bay). — Jordan, Tanaka, Snyder,

Journ. College Sci., Tokyo, vol. 33, p.
416 (fig. 387 copied), 1913 (reference).

— Gilbert and Hubbs, Proc. U. S. Nat.
Mus., vol. 51, p. (143) 166, 1916 (type).

471

Coryphaenoides bairdii (Goode and Bean)
Macrourus bairdii Goode and Bean,
Amer. Journ. Sci. Art., ser. 3, vol. 14,
p. 471, 1877 (type locality: Gulf of Maine
44 miles from Cape Ann). — Jordan

and Evermann, Bull. U. S. Fish Comm., no.
47, pt. 3, p. 2583, 1898 (copied). — Smith
and Bean, in Howe, Bull. U. S. Fish
Comm., vol. 19, p. 240, 1899 (1901) (lat.
39°58'30" to 40°4'39" N., long. 70°16' to 70°21'
W., 95 to 198 fathoms).

Macrourus bairdi Jordan, Evermann, Clark,
Rep. U. S. ~~Fish~~ Comm. Fisher., pt. 2, p. 205,
1930 (reference).

Macrurus bairdii Goode, Proc. U. S. Nat. Mus.,
vol. 3, p. 337 (lat. 40°2'36" N., long. 70°22'58" W.,
155 fathoms), p. 475 (lat. 39° N., long. 70° to 71°
W., 225 to 487 fathoms), 1880 (1881). —

J. H. Bean, Amer. Journ. Sci. Arts, ser. 3,
vol. 22, p. 296, 1881 (Fish Hawk Station, 160

1172

to 506 fathoms). — Goode and Bean,
Bull. Mus. Comp. Zool., vol. 10, pp. 188,
190, 191, 195, 1883 (lat. 38° to 39° N., long. 70° to
 73° , 197 to 740 fathoms). — Miner, Rep.

U. S. Fish Comm., pt. 11, p. 184 (lat. 38° to 40°
N., long. 68° to 71° W., 197 to 2369 fathoms),
1883 (1885). — Parker, in Benedict,

Rep. U. S. Fish Comm., pt. 12, p. 100, 1884
(1886) (lat. 39° N., long. 70° to 71° , 353 to 600
fathoms). — Günther, Rep. Voy. Challenger,

vol. 22, p. 135, pl. 32, fig. 3, 1887 (western
Atlantic). — Tanner, Rep. U. S. Fish Comm.,
— Jordan, Rep. U. S. Fish Comm., pt. 13,
p. 919, 1885 (1887) (name). —

U. S. Fish Comm., vol. 7, p. 156 (lat. 37° N.,
long. 71° W., 705 to 1163 fathoms). — Goode

and Bean, Oceanic Ichth., p. 393, pl. ,
fig. 335, 1895 (lat. 11° to 45° N., long. 50° to 87°
W., 9 to 1255 fathoms). — Garnaud, Mem.
Mus. Comp. Zool., vol. 24, p. 396, 1899
(reference).

1172

to 506 fathoms). — Goode and Bean,
Bull. Mus. Comp. Zool., vol. 10, pp. 188,
190, 191, 195, 1883 (lat. 38° to 39° N., long. 70° to
 73° , 197 to 740 fathoms). — Miner, Rep.

U. S. Fish Comm., pt. 11, p. 184 (lat. 38° to 40°
N., long. 68° to 71° W., 197 to 2369 fathoms),
1883 (1885). — Parker, in Benedict,

Rep. U. S. Fish Comm., pt. 12, p. 100, 1884
(1886) (lat. 39° N., long. 70° to 71° , 353 to 600
fathoms). — Günther, Rep. Voy. Challenger,

vol. 22, p. 135, pl. 32, fig. 3, 1887 (western
Atlantic). — Tanner, Rep. U. S. Fish Comm.,

pt. 16, p. 632, 1886 (1889) (lat. 39° to 40° N.,
long. 67° to 72° ^{W.}, 594 to 980 fathoms); Bull.
U. S. Fish Comm., vol. 7, p. 156, ^{1887 (1889)} (lat. 39° N.,
long. 71° W., 705 to 1163 fathoms). — Goode

and Bean, Oceanic Ichth., p. 393, pl.
fig. 335, 1895 (lat. 11° to 45° N., long. 50° to 87°
W., 9 to 1255 fathoms). — Garnlan, Mem.
Mus. Comp. Zool., vol. 24, p. 396, 1899
(reference).

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1173

Macrurus bairdi Jordan and Gilbert,
Bull. U. S. Nat. Mus., No. 16, p. 812,
1883 (off New England).

Macrurus (Macrurus) bairdi Brauer,
Deutsch. Tiefsee Exped. Valdivia, vol. 15,
p. 389, 1906 (reference).

Lionurus bairdii Gilbert and Hubbs,
Proc. U. S. Nat. Mus., vol. 51, p. 146, 1916
(reference).

Depth $6\frac{3}{5}$ to 8; head $5\frac{1}{2}$ to $6\frac{1}{2}$; width
2 to $2\frac{1}{8}$. Snout to eye 3 to $3\frac{1}{5}$ in head,
 $1\frac{1}{8}$ to $1\frac{1}{5}$ in orbit; eye 3 to $4\frac{1}{3}$ in
head, 1 to $1\frac{1}{3}$ in snout, 1 to $1\frac{1}{5}$ times
interorbital; orbit $2\frac{3}{5}$ to 3 in head,
greatly exceeds snout or interorbital;
maxillary reaches $\frac{2}{5}$ to $\frac{3}{4}$ in eye, length
from front end $2\frac{1}{3}$ to $3\frac{1}{3}$ in head;
preoral length $3\frac{1}{6}$ to 4; mandibular
barbel $1\frac{1}{5}$ to $2\frac{1}{2}$ in eye; teeth in
villiform bands in jaws, in 4 to 6
irregular transverse series of which
outermost little enlarged though

not set off from others; interorbital $3\frac{3}{5}$ to $4\frac{1}{4}$ in head, low and nearly level in front. Gill rakers $0+8$ low spinescent tubercles ^{on second arch}, $\frac{1}{3}$ of gill filaments, which $2\frac{1}{6}$ ^{to 3} in eye.

Scales 150 to 162 in lateral line; ^{8 or} 9 above, ^{19 to} 23 below, 33 to 42 predorsal of which 18 to 24 extend forward opposite hind edge of orbit. Scales with 18 to 28 irregular horizontal rows of long slender parallel spinules apically, last extending well beyond hind scale edge; circuli fine, not extended apically.

D. II, 11 - 123 to 140?, second simple ray slender, pungent, with row of antorse serrae along front edge, length $1\frac{2}{3}$ to $1\frac{1}{2}$ in head;

Proc. U. S. Nat. Mus., vol. 25, 1902, p. 356
(Hokoto, Formosa; Rikuzen). — Jordan and

Fowler, l.c., p. 526 (Miyako, Tokyo, Kagoshima,
Bonin Islands, Okinawa, Legen, Formosa).

— Düncker, Mitteil. Nat. Mus. Hamburg, band
21, 1903 (1904), p. 157 (Singapore). — Steindachner,

Denks. Akad. Wiss. Wien, band 71 (1), 1907, p.
145 (Scheich Othman, South Arabia). —

Gilchrist and Thompson, Ann. South Afr. Mus.,
vol. 6, pt. 2, 1908, p. 188 (Natal). — Jugmayer,

Abhand. K. Bayer. Akad. Wiss., band 26, abth.
6, 1913, p. 13 (Mekran and Oman). — Weber,

Siboga Exp., vol. 65, 1913, p. 313 (Amboina).

→ — Ogilby, Commere. Fish. Queensland, 1915, p.
(Moreton Bay). — McCulloch, Austral. Zool.,

vol. 2, pt. 3, February 10, 1922, p. 90, plate 27
(New South Wales). — ~~Atwood and Bean, Proc.~~

~~U. S. Nat. Mus., vol. 62, 1922, p. 55 (Zanzibar).~~

{ — Pellegrin, Bull. Soc. Zool. France, tome 39,
1914, p. 227 (Mahambo, Madagascar). }

1175

interdorsal space $1\frac{2}{3}$ to $1\frac{3}{4}$; A.
120 to 130, fin height 4 to 5;
pectoral rays I, 14 or I, 15, fin
 $1\frac{2}{5}$ to $1\frac{7}{8}$ in head; ventral rays
I, 6, fin ~~$1\frac{2}{3}$~~ to $2\frac{2}{5}$.
 $1\frac{2}{3}$

Largely uniform dark brownish.
Iris pale brown. Inside mouth
pale. Inside gill opening blackish
brown. Lower or under surface of
head about branchiostegals
blackish brown. Fins brownish
to dusky.

Off eastern North America in
Gulf Stream. In this very abundant
species many specimens I have the
scales firmly adherent, even
after long preservation in alcohol.
Their coloration is quite uniform
and with little contrast, often
the breast and belly scarcely darker.

1870, p. 791 (Koseir). — Day, Fishes of India,
pt. 2, 1876, p. 235, plate 51 B, fig. 4. — Günther,
Journ. Mus. Godeffroy, band 11, left 5, 1876, p.
141 (Pelew Islands). — Bleeker, Atlas Ichth.
vol. 7, 1877-78, p. 73, plate (17) 379, fig. 2 (Sumatra,
Batu, Nias, Pinang, Singapore, Bintang, Banca,
Cocos, Java, Madura, Borneo, Celebes,
Sumbawa, Timor, Ternate, Batjan, Ceram,
Amboina, New Guinea). — Klunzinger, Fische.
Roth. Meer., 1884, p. 118. — Meyer, Ann. Soc.
Esp. Hist. Nat. Madrid, vol. 14, 1885, p. 25
(Kordó, Mysore). — Boulenger, Proc. Zool. Soc.
London, 1887, p. 661 (Muscat). — Day, Fauna
British India, vol. 2, 1889, p. 182, fig. 63. —
Sauvage, Hist. Nat. Madagascar, Poiss., 1891, p.
280. — Elera, Cat. Fauna Filip., vol. 1, 1895, p.
515 (Luzon, Manila, Cebu). — Kent, Great
Barrier Reef, 1893, p. 290 (Cavins, Queensland).
— Ishikawa and Matsuura, Prelim. Cat. Fish.
Mus. Tokyo, 1897, p. 41. — Jordan and Evermann,

U. S. N. M., No. 2428.

Length 700 mm.

U. S. N. M., No. 2104.

North Atlantic.

U. S. Fish Comm. Length mm. Type of
Macrourus bairdii.

U. S. N. M., No. 23150.

U. S. F. Comm. T. 177. 1878.

Length 329 mm.

U. S. N. M., No. 23151.

U. S. F. Comm. T. 178. 1878.

Length 183 mm.

U. S. N. M., No. 23152.

U. S. F. Comm. T. 178. 1878.

Length 197 mm.

Syst. Ichth. Bloch, 1801, p. 222 (Arabia and
Tranquebar). — Lacépède, Hist. nat. Poiss;
vol. 4, 1802, pp. 460, 494 (Arabia). — Shaw
and Nodder, Nat. miscellany, vol. 19, 1807,
plate 800 (Indian Sea).

Platax teira Cuvier, Règne Animal, vol. 2, 1817,
p. 354. — Rüppell, Atlas Reise. nordl. Afr.,
Fische, 1828, p. 68 (Algeria). — Cuvier, Hist. nat.
Poiss., vol. 7, 1831, p. 169 (Malabar). — Cantor,
Journ. Asiat. Soc. Bengal (Cat. Malay. Fish.),
vol. 18, ^{seriet²} 1849, p. 1150 (Pinang, Malay Peninsula,
Singapore). — Peters, Arch. Naturg., 1855, p. 247
(Mozambique). — Günther, Cat. Fish. Brit. Mus.,
vol. 2, 1860, p. 492 (Moluccas, Borneo, Ceram, China,
Bribe's Point, Pinang). — Kner, Reise Novara
Fische, pt. 2, 1865, p. 166 (no locality). — Bleeker,
Ned. Tijds. Dierk., deel 2, 1865, p. 31 (Manila Bay).
— Day, Fishes of Malabar, 1865, p. 101. — Playfair,
Fishes of Zanzibar, 1866, p. 65 (Aden and Zanzibar).
— Klunzinger, Verh. Zool. Bot. Ges. Wien, band 20,

1177

U. S. N. M., no. 26065. Off Newport,
Rhode Island. 1880.

Length 170 to 340 mm. 7 examples.

U. S. N. M., no. 26163. Off Newport,
Rhode Island. September 25, 1880.

U. S. F. Comm. Length 70 to 102 mm.
6 examples.

U. S. N. M., no. 26166. Off Newport,
Rhode Island. In 372 fathoms. October
2, 1880. Fish Hawk Collection (893).
Length 35? to 78? mm. 3 examples.

U. S. N. M., no. 26110. Lat. $39^{\circ}57'N$,
Long. $70^{\circ}56'$ to $57'W$. In 225 fathoms.
September 13, 1880. Fish Hawk
Collection (879). Length 131 to 331?
mm. 3 examples.

U. S. N. M., no. 26187. Off Newport,
Rhode Island. In 372 fathoms.
October 2, 1880. Fish Hawk Collection
(893). Length 170 mm.

81

Pectoral short. Ventral with spine and 5 rays, greatly elongated in young.

These fishes, conspicuous by their large, flat, orbicular bodies, were divided into numerous species by the older writers. This eventuated as they are greatly subject to variation, especially with age. From the study of our materials we have been unable to maintain but two species.

Analysis of the species.

a. Front profile obtusely angular, angle formed at tip of mandible; scales large, less than 70; soft dorsal and anal rather rounded. pinnatus

aa. Front profile evenly convex; scales small, 75 or more; soft dorsal and anal with elevated points anteriorly. orbicularis

1178

U. S. N. M., No. 24401. Lat. $44^{\circ}2'N.$,
long. $59^{\circ}W.$. In 300 fathoms. September
1879. Captain Philip Merchant.
Schooner "Marion". U. S. Fish Comm.
(No. 492). Length 204? mm. Very poor
specimen.

U. S. N. M., No. 24402. Lat. $44^{\circ}3'N.$,
long. $58^{\circ}26'W.$. In 250 fathoms.
September 1879. Captain George H.
Johnson. Schooner "Augusta H.
Johnson". U. S. Fish Comm. (No. 502).
Length 190? mm.

U. S. N. M., No. 24730. Lat. $44^{\circ}30'N.$,
long. $57^{\circ}10'W.$, east Bangquereau. In
213 fathoms. October 15, 1879. Capt.
Philip Merchant. Length 310? mm.

U. S. N. M., No. 26062. Off Newport,
Rhode Island. 1880. U. S. F. Comm.
(879-880). Length 165 to 317? mm.
*⁵ examples.

82

Platax primatus (Linnaeus).

Chaetodon primatus Linnaeus, Syst. Nat.,

Ed. 10, 1758, p. 272. East Indies. — Linnaeus,

L. C., Ed. 12, 1766, p. 461. — Gmelin, Syst.

Nat. Linn., 1789, p. 1241 (India). —

Walbaum, ~~Arted.~~ Arted. Pisc., vol. 3, 1792, p.

425 (on Linnaeus). — Forster, Fann. Indica,

1795, p. 14. — Schneider, Syst. Ichth. Bloch,

1801, p. 230 (India).

Platax primatus Bleeker, Atlas Ichth., vol. 9,

1877, p. 75, plate 380 (18), fig. 1, plate 382 (20),

fig. 2 (Singapore, Java, Madura, Celebes,
Batjan).

Chaetodon teira Forskål, Descr. Animal., 1775,

pp. XII, 60. Lohaja. — Bloch, Naturg. Auss. Fisch.,

vol. 3, 1787, p. 65, plate 199 (Arabian and

East Indian Seas). — Gmelin, Syst. Nat. Linn.,

1789, p. 125 (Arabia and East Indies). — Walbaum,

Arted. Pisc., vol. 3, 1792, p. 417 (on Forskål).

— Forster, Fann. Indica, 1795, p. 15. — Schneider,

U.S.N.M., No. 26193. Off Newport,
Rhode Island. In 487 fathoms.
October 2, 1880. Fish Hawk
Collection (892). Length 198 to 310
mm. 9 examples.

U.S.N.M., No. 26194. Off Newport,
Rhode Island. In 372 fathoms.
October 2, 1880. Fish Hawk Collection
(893). Length 335 mm.

U.S.N.M., No. 26198. Off Newport,
Rhode Island. In 365 fathoms.
October 12, 1880. Fish Hawk Collection
(894). Length ~~335~~ 335 mm.

U.S.N.M., No. 26212. Off Newport,
Rhode Island. October 2, 1880.
~~Exhibit 2000~~ Fish Hawk Collection.
Length 100 to 124 mm. 4 examples.

80

all branched. Ventrals thoracic, well developed, inserted below pectoral base.

A single genus, in the Indo Pacific.

Genus Platax Cuvier.

Platax Cuvier, Règne Animal, vol. 2, 1817, p. 334. Type Chaetodon teira Bloch, designated by Jordan and Evermann, Genera of Fishes, pt. 1, 1917, p. 105.

Body greatly compressed and elevated. Snout very short. Mouth small. Teeth setiform, with outer row little enlarged, notched at tips. Preopercle entire. Gill rakers very short. Pseudobranchiae present. Air vessel simple. Tylosis coeca few. Vertebrae 24, of which 14 caudal. Scales 60 to 80. Head scaly laterally. Soft dorsal and anal anteriorly high, with thickened scaly bases. Caudal fin truncate.

U. S. N. M., No. 26217. Off Newport,
Rhode Island. In 365 to 487 fathoms.
Fish Hawk Collection (891 to 894).

Length 178 to 336 mm. 16 examples.

U. S. N. M., No. 26348. Grand
Banks. Morrissey. Length 300 mm.
In poor condition.

U. S. N. M., No. 26734. Lat. $37^{\circ}24'N$,
Long. $74^{\circ}17'W$. In 300 fathoms.
November 16, 1880. Fish Hawk Collection
(898). Length 239 mm.

U. S. N. M., No. 28722. Lat. $39^{\circ}55'N$,
Long. $70^{\circ}49'W$. In 224 fathoms. July 16,
1883. Fish Hawk Collection (935).
Length 125 to 243 mm. 5 examples.

Family Platacidae.

79

Body rhomboid, deep. Front profile of head steep. Mouth terminal, horizontal. Maxillary short, without supplemental bone. Premaxillaries slightly protractile. Jaws with bands of slender, brush like, pointed, moveable teeth. No teeth on palate. Nostrils double. Gill openings lateral, broadly separated from isthmus. Branchiostegals 6 or 7. Air bladder simple. Scales small, ctenoid, densely cover vertical fins. Lateral line present, concurrent with back. One dorsal, spines nearly concealed, generally 3 to 9, short, graduated, rays 28 to 40. Anal spines 3, rays 22 to 30. Caudal peduncle short. Pectoral rays.

U.S.N.M., No. 28773. Lat. $39^{\circ}51'N$,
long. $69^{\circ}49'15''W$.

August 4, 1881. U.S. Fish Comm. (938).
Length 57 to 82 mm. 3 examples.

U.S.N.M. No. 28787. Lat. $39^{\circ}49'25''N$,
long. $49^{\circ}49'W$.

July 16, 1881. U.S. Fish Comm.
Length 16, 1881.

U.S.N.M., No. 28789. Lat. $39^{\circ}57'30''N$,
Long. $69^{\circ}51'30''W$.

August 4, 1881. U.S. Fish Comm. (940).
Length 110 mm.

U.S.N.M., No. 28892. Lat. $39^{\circ}50'30''N$,
long. $71^{\circ}23'$.

September 8, 1881. U.S. Fish Comm. (1020).
Length 63 to 93 mm. 3 examples.

U.S.N.M., No. 28896. Lat. $39^{\circ}42'N$,
long. $71^{\circ}32'W$.

September 8, 1881. U.S. Fish Comm. (997).
Length 78 mm.

Schuettea scalaripinnis Steindachner.

Schuettea scalaripinnis Steindachner,
Sitzb. Ber. Akad. Wiss. Wien, band 53, 1866,
p. 449, plate 6, fig. 1. Port Jackson,
Australia. — Günther, Zool. Record,
1866, Pieces, p. 141 (note). — McCulloch,
Zool. Res. Ensaïm, vol. 1, 1911, p. 81,
plate 15 (Sydney and Bardi). —
McCulloch, Records Austral. Mus., vol. 11,
no. 7, 1917, p. 181 (note). — McCulloch,
Australian Zool., vol. 2, pt. 3, February
10, 1922, p. 89, fig. 226a (New South Wales).
plate 26,

Scorpius boops Peters, Monatsb. Akad.

Wiss. Berlin, 1866, p. 521.

Branchiura woodwardi (non White) Stead, Proc.
Linn. Soc. New South Wales, vol. 31, 1906, p. 496.

According to McCulloch reaches 204
mm.

1181

U. S. N. M., No. 28903. Lat. $39^{\circ}45'13''N$,
long. $71^{\circ}30''W$.

U. S. Fish Comm. (925). Length 153 mm.

U. S. N. M., No. 28909. Lat. $39^{\circ}45'13''N$,
long. $71^{\circ}25''W$.

U. S. Fish Comm. (1025). Length 95 to 108 mm.
2 examples.

U. S. N. M., No. 28931. Lat. $39^{\circ}57'N$,
long. $69^{\circ}17'W$.

September 14, 1881. U. S. Fish Comm. (1028).
Length 142 to 150 mm. 2 examples.

U. S. N. M., No. 28913. Lat. $39^{\circ}40'N$, long.
 $71^{\circ}30'$. September 8, 1881.

U. S. Fish Comm. (994). Length 280 mm.

U. S. N. M., No. 29049. Lat. $38^{\circ}35'N$,
long. $73^{\circ}13'W$. In 312 fathoms.

October 10, 1881. Fish Hawk Collection
(1045). Length ^{120 to} 266? mm. 3 examples.

77

Genus Schuettea Steindachner.

Schuettea Steindachner, Sitzb. Akad.
Wiss. Wien, band 53, 1866, p. 449. Type
Schuettea scalaripinnis Steindachner,
monotypic.

Differs from Monodactylus in its
fewer dorsal spines (5) and cycloid
scales.

Australia.

U. S. N. M., No. 29078. Lat. $38^{\circ}28'N$,¹¹⁸²
long. $73^{\circ}22'W$. In 435 fathoms.
October 10, 1881. Fish Hawk Collection
(1049). Length 157 to 257 mm.
3 examples.

U. S. N. M., No. 31530. Cape Cod Light
House S. W. $\frac{3}{4}$ W. distant 13 miles. In
110 fathoms.

U. S. Fish Comm. (1090). Length 164 mm.

U. S. N. M., No. 31605. Lat. $39^{\circ}58'N$,
long. $69^{\circ}42'W$. In 202 fathoms.

1882. U. S. Fish Comm. (1092).
Length 273? mm.

U. S. N. M., No. 31611. Lat. $39^{\circ}56'N$,
long. $69^{\circ}45''W$. In 349 fathoms.

1882. U. S. Fish Comm. (1093).
Length 182 mm.

U. S. N. M., No. 31646³. Lat. $39^{\circ}58'N$,⁷ long.
 $70^{\circ}35''W$. In ~~192~~¹⁹² fathoms. August 18², 1882.
U. S. Fish Comm. (1113). Length 165 to 194
mm. 2 examples.

76
56286 U. S. N. M. Cavite. G. A. Ling.
Length 40 mm. 2 examples.

59943 U. S. N. M. Clarence River,
New South Wales. Dr. D. G. Stead.
Length 118 to 128 mm. 3 examples.

72172 U. S. N. M. Iloilo, Philippines.
R. C. Mc Gregor. Length 75 mm.

72264 U. S. N. M. Calayam, Philippines.
R. C. Mc Gregor. Length 47 to 58 mm.
2 examples.

84206 U. S. N. M. Cebu, Philippines. Dr. F.
Baker. Length 147 mm.

U. S. N. M., no. 31646. Lat. $39^{\circ}56'$
N., long. $70^{\circ}35'W$. In 245 fathoms.
August 18, 1882. U. S. Fish Comm. (1112).
Length 190? mm.

U. S. N. M., no. 31718. Lat. $40^{\circ}1'N$, long.
 $68^{\circ}54'W$. In 640 fathoms. August 26,
1882. U. S. Fish Comm. (1124).
Length 345 mm.

U. S. N. M., no. 31657. Lat. $37^{\circ}16'30''$
N., long. $74^{\circ}26'36''W$.
March 23, 1883. Albatross Collection
(haul 3). Length 147 mm.

U. S. N. M., no. 31721. Lat. $40^{\circ}4'N$,
long. $68^{\circ}49'W$. In 234 fathoms. August
26, 1882. U. S. Fish Comm. (1121).
Length 219 mm.

8782, 8783, 21682, 21683. Santiago
River, Pagapas Bay, Luzon. February
20, 1909. Length 82 to 98 mm.

11371 and 11372. Sandakan market,
Borneo. March 3, 1908. Length 125 to
133 mm.

A 1175 to A 1178. Gane Road, Gillolo
Island. December 1, 1909. Length 190 to
205 mm.

12598 U.S.N.M. Seychelles. British
Museum. Length 35 to 87 mm. 3 examples.

52323 U.S.N.M. Apia, Samoa.
Bureau of Fisheries. Length 102 to 197 mm.
4 examples.

56039 U.S.N.M. Buluan, Philippines.
Bureau of Fisheries.
~~Philippine Com~~ ^ Length 95 mm. [3594].

U.S. N. M., no. 31731. Lat. $40^{\circ}3'N$,¹¹⁸⁴
long. $68^{\circ}56'W$. In 291 fathoms. August
26, 1882. U.S. Fish Comm. (1125).
Length ^{127 to} 133 mm. 2 examples.

U.S. N. M., no. 31736. Lat. $40^{\circ}4'N$,
long. $68^{\circ}49'W$. In 234 fathoms.
August 26, 1882. U.S. Fish Comm.
(1121). Length 205? mm.

U.S. N. M., no. 31746. Lat. $39^{\circ}59'$
 $45''N$, long. $68^{\circ}54'W$. In 787 fathoms.
August 26, 1882. U.S. Fish Comm.
(1123). Length 352 mm.

U.S. N. M., no. 31855. Lat. $39^{\circ}54'N$,
long. $70^{\circ}37'W$. In 225 fathoms. October
4, 1882. U.S. Fish Comm. (1153).
Length 316 to 338? mm. 2 examples.

22001. Nakoda Bay, Palawan.
December 31, 1908. Length 59 mm.

21986. near mouth Tayabas River,
Luzon. February 25, 1909. Length 60 mm.

20817. Paluan Bay, Mindoro.
December 11, 1908. Length 140 mm.

21282. Tanabutan Bay, Mindanao.
February 6, 1906. Length 75 mm.

Examples. Fort San Pio Quinto,
Canaquin Island. November 11, 1908.
Length 57 to 66 mm.

8481 to 8483. Port Dupon, Leyte.
March 17, 1909. Length 95 to 140 mm.

19447. River at Pasacao, Luzon.
March 9, 1909. Length 71 mm.

22293 and 22294. River at Port Dupon,
Leyte. March 17, 1909. Length 65 to 78 mm.

U. S. N. M., No. 31866. Lat. $39^{\circ}52'$ ¹⁸⁸⁵
N., long. $70^{\circ}30'W$. In 554 fathoms.

1882. U. S. Fish Comm. (1155).

Length 316 mm.

U. S. N. M., No. 32656. Lat. $37^{\circ}16'$
 $30''N$., long. $74^{\circ}26'36''W$.

March 23, 1883. Albatross Collection
(haul 3). Length ~~120~~¹²⁰ to 175? mm.
⁴ examples.

U. S. N. M., No. 32808. Lat. $36^{\circ}41'5''$
N., long. $74^{\circ}38'55''W$.

May 1, 1883. Albatross Collection (2014).
Length 178 to 242 mm. 2 examples.

U. S. N. M., No. 33006. Lat. $39^{\circ}57'50''$
N., long. $70^{\circ}32'W$. May 1883.
Albatross Collection (2025). Length
360 mm.

73
4603 to 4609. Grande Island reef,
Subig Bay. January 8, 1908.

Length 165 to 188 mm.

6640. Iloilo market. March 28, 1908.

Length 122 mm.

5194. Zolo market. March 7, 1908.

Length 177 mm.

~~11604~~ 22555. Manila market.

January 13, 1908. Length 70 mm. (caudal broken).

11604. Manila market. March 16, 1908.

Length 135 mm.

21219 to 21221. ^{Nonucan} ~~Transcane~~ River, Camp
Overton, Mindanao. August 6, 1908.

Length 30? to 46 mm. (small example poor).

7901 and 7902. Marikles Bay. February
1, 1909. Length 140 to 143 mm.

U. S. N. M., No. 33008. Lat. 40°
 $2' N.$, long. $70^{\circ} 27' W.$

May 1883. Albatross Collection (2025).
~~Size~~ Length 360 mm.

U. S. N. M., No. 33037. Lat. 39°
 $57' 50'' N.$, long. $70^{\circ} 32'.$

May 1883. Albatross Collection (2028).
Length 285 mm.

U. S. N. M., No. 33326. Lat. $40^{\circ} 2'$
 $N.$, long. $68^{\circ} 50' 30'' W.$ In 547 fathoms.
July 31, 1883. Albatross Collection
(2048). Length 292 mm.

U. S. N. M., No. 33387. Lat. $41^{\circ} 10'$
 $N.$, long. $66^{\circ} 47' 45'' W.$
August 31, 1883. Albatross Collection
(2061). Length 279 to 290 mm. 2 examples.

U. S. N. M., No. 33392. Lat. ~~40~~ 41°
 $N.$, long. 65° $W.$

~~Two examples~~ Length 370 to 408 mm.
2 examples. As macurus asper.

Red Sea, Zanzibar, Rodriguez, India,
Sri Lanka, Ceylon, East Indies, China,
Philippines, Queensland, Polynesia.

14028. Baganga Bay, Mindanao.
May 13, 1908. 5 examples. Length 63 to 175
mm.

11009 and 11010. Basut River, Luzon,
tide-water. June 15, 1909. Length 100 to 117
mm.

16602. Beacon reef, Catbalogan, Samar.
April 16, 1908. Length 103 mm.
1 example. Buluan Island. July 22, 1909.
15 examples. Camahala Bay in small
stream, Ragay Gulf. March 11, 1909.
Length 59 to 103 mm.

5525 to 5527. Catbalogan, Samar. April
16, 1908. Length 150 to 185 mm.

10952. Cebu market. August 25, 1909.
Length 88 mm.

19027. Galvaney Island, Ragay Gulf,
Luzon. March 9, 1909. Length 65 mm.

U. S. N. M., no. 33397. Lat. $42^{\circ}2'N.$,
long. $68^{\circ}27'W.$ In 105 fathoms. August
29, 1883. Albatross Collection (2053).
Length 280? mm.

U. S. N. M., no. 33410. Lat. $42^{\circ}23'N.$,
long. $66^{\circ}23'W.$ In 141 fathoms. August
31, 1883. Albatross Collection (2063).
Length 228 to 274 mm.

U. S. N. M., no. 33418. Lat. $42^{\circ}17'N.$,
long. $66^{\circ}37'15''W.$ In 150 fathoms.
August 31, 1883. Albatross Collection
(2062). Length ~~258~~¹⁵⁷ to 298 mm. ⁶ examples.

U. S. N. M., no. 33450. Lat. $41^{\circ}53'N.$,
long. $65^{\circ}35'W.$ In 858 fathoms. September 2,
1883. Albatross Collection (2072).
Length 268 to 383 mm. ~~8~~⁸ examples.

U. S. N. M., no. 33456. Lat. $41^{\circ}9'40''N.$,
long. $66^{\circ}2'20''W.$ In 1255 fathoms.
September 4, 1883. Albatross Collection
(2077). Length 358 to 376? mm. 2 examples.

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Red Sea, Zanzibar, Mauritius,
Rodriguez, Madagascar, India,
Ceylon, East Indies, China, Philippines,
Queensland, New South Wales, Polynesia.
Abundant in collections. According to
day it is silvery with purplish reflection
and the back yellowish green, fading
leadens. Ventrals yellow with black
narrow posterior edge and paired
fins colorless. In preserved examples
we find the dark vertical bands
indistinct or absent.

U. S. N. M., No. 33513. Lat. $39^{\circ}58'35''$ N., long. $71^{\circ}00'30''$ W. In 197 fathoms. September 21, 1883. Albatross Collection (2092). Length 95 to 213 mm. 6 examples.

U. S. N. M., No. 35427. Lat. $39^{\circ}25'50''$ N., long. $71^{\circ}49'30''$ W. In 523 fathoms. July 23, 1884. Albatross Collection (2180). Length 246 to 323 mm. 6 examples.

U. S. N. M., No. 35430. Lat. $37^{\circ}59'30''$ N., long. $73^{\circ}48'40''$ W.

July 20, 1884. Albatross Collection (2171). Length 220 to 250 mm. 3 examples.

U. S. N. M., No. 35432. Lat. $38^{\circ}1'15''$ N., long. $73^{\circ}44'$ W. In 568 fathoms. July 20, 1884. Albatross Collection (2172).

Length ~~217~~¹⁹⁰ to 270 mm. 2 examples.

U. S. N. M., No. 35434. Lat. $39^{\circ}29'$ N., long. $71^{\circ}46'$ W. In 693 fathoms. July 23, 1884. Albatross Collection (2181).

Length 270? to 323 mm. 4 examples.

> least depth of caudal peduncle $2\frac{2}{3}$ to 3 ^{in head};
caudal emarginate, $2\frac{1}{3}$ to $2\frac{4}{5}$; pectoral
 $1\frac{1}{3}$ to $1\frac{2}{3}$.

A. III, 28, I to 30, V, third spine $1\frac{1}{8}$ to $1\frac{3}{4}$,
second branched ray 2 to $3\frac{1}{2}$ in combined head
and body;

Back brown, below whitish, everywhere
with brilliant silvery-white reflections.
Iris pale or silvery white. Fins all pale
brownish, soft dorsal and anal lobes
dusky brown terminally. In young
deep brown narrow band from occiput,
joining its fellow, then down across
middle of eye to cheek, where little wider.
Second vertical brown line, usually
diffuse from side of predorsal down
along hind edge of opercle, across pectoral
base to anal origin. In very small
examples tail contrasted white.

U.S.N.M., no. 35435.

1189

Length 392 mm.

U.S.N.M., no. 35477. Lat. $39^{\circ}52'15''$
N., long. $70^{\circ}55'30''$ W. In 353 fathoms.
August 2, 1884. Albatross Collection
(2186). Length 321 to 365? mm. 4 examples.

U.S.N.M., no. 35487. Lat. $39^{\circ}49'30''$
N., long. $70^{\circ}26'$ W. In 600 fathoms. August
4, 1884. Albatross Collection (2189).

Length 275? to 316 mm. 3 examples.

U.S.N.M., no. 35503. Lat. $39^{\circ}32'30''$
N., long. $72^{\circ}21'30''$ W. July 22,
1884. Albatross Collection (2176).

Length 227 to 283^{75} mm. 4^5 examples.

U.S.N.M., no. 35504.

Length 327 mm.

Depth $1\frac{1}{5}$ to $1\frac{1}{3}$; head $2\frac{3}{5}$ to 3, width $1\frac{7}{8}$ to 2.
Snout 4 to $4\frac{1}{2}$ in head from snout tip; eye $2\frac{2}{5}$ to $2\frac{7}{8}$, greater than snout, greater than interorbital in young to equal to interorbital with age; maxillary reaches beyond front eye edge, or to front pupil edge in adult, $2\frac{7}{8}$ to $3\frac{1}{5}$ in head; interorbital $2\frac{1}{2}$ to 3, broadly convex. Gill rakers 6 + 22, lanceolate, $\frac{1}{4}$ in gill filaments, which $1\frac{7}{8}$ in eye.

Vs 53 to 65 in lateral line to caudal base; 14 or 15 scales above lateral line to soft dorsal origin, 44 or 45 below. Scales with 2 basal radiating striae in young, disappearing with age; about 30 apical denticles in young, largely disappearing with age or becoming very minute and irregular; circuli basal, 42 to 50.

D. VIII, 29, $\frac{1}{5}$ to 31, $\frac{1}{5}$, last spine $1\frac{1}{2}$ to 3 in head, ^{length} second branched ray 1 to $1\frac{3}{5}$; _{total}

U. S. N. M., No. 35505.

1190

Length 473 mm.

U. S. N. M., No. 35506. Lat. $39^{\circ}29'N$,
long. $72^{\circ}5'15''W$. In 229 fathoms. July 22,
1884. Albatross Collection (2178).

Length 115 to 300 mm. 4 examples.

U. S. N. M., No. 35548. Lat. $39^{\circ}38'N$,
long. $71^{\circ}39'45''W$. In 515 fathoms. August
19, 1884. Albatross Collection (2202).

Length 365 mm.

U. S. N. M., No. 35565.

Length 280 mm?

U. S. N. M., No. 35588.

Length 376 mm.

Depth $2\frac{1}{5}$ to $2\frac{2}{5}$; head $2\frac{2}{5}$ to $2\frac{2}{3}$, width 2 to $2\frac{1}{8}$.
 Snout $3\frac{1}{5}$ to $3\frac{3}{5}$ in head from snout tip; eye
 $3\frac{1}{3}$ to $4\frac{1}{3}$, 1 to $1\frac{1}{5}$ in snout, 1 to 2 in interorbital;
 maxillary reaches opposite $\frac{1}{2}$ to $\frac{3}{5}$ of eye,
 $1\frac{7}{8}$ to $2\frac{1}{8}$ in head; interorbital $2\frac{2}{5}$ to 3 ,
 nearly flat or but slightly elevated.

Gill rakers $2 + 5$, only 3 on cerato-
 branchial developed, short, clavate,
 $1\frac{1}{2}$ in gill filaments, which $2\frac{1}{2}$ in eye.

Scales 28 to 30 in lateral line to
 caudal base and 4 or 5 nontubular on
 latter; 4 scales above lateral line,
 8 or 9 below. Scales with 6 or 7 basal
 radiating striae and 1 to 12 incomplete
 auxiliaries with age; apical denticles
 12 to 165 , very fine, with 6 to ^{imperfect} 20 or more
 transverse series of basal elements;
 circuli.

D. IV, 12, third spine 2 to $2\frac{1}{3}$ in total
 head length, second ray 2 to $2\frac{2}{3}$; A.

U. S. N. M., no. 35605.

1191

Length 475 mm.

U. S. N. M., no. 35648.

Length 352 mm.

U. S. N. M., no. 35654.

Length 288 to 297 mm.

U. S. N. M., no. 35685. Lat. $39^{\circ}54'45''$ N.,
long. $69^{\circ}29'45''$ W. In 250 fathoms. September
28, 1884. Albatross Collection (2262).

Length ~~340~~ to 310 mm. 2 examples

U. S. N. M., no. 38065. Lat. $38^{\circ}56'$ N., long.
 $73^{\circ}11'30''$ W. In 813 fathoms. September 20,
1886. Albatross Collection (2721).

Length 268 mm.

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Scarus schlosseri Gmelin, Syst. Nat. Linn.,
1789, p. 1282. Java (in Tallan). — Walbaum,
Arted. Pisc., vol. 3, 1792, p. 691 (in Gmelin).
— Lacépède, Hist. Nat. Poiss., vol. 4, 1802,
p. 5, 18 (Java).

Gygetes igulatus var. malaccensis Cantor,
Jour. Mus. Bengal, Cat. Malay. Fish.,
vol. 18 (2 series), 1841, p. 1157. Penang,
Malay Peninsula, Singapore.

U. S. N. M., no. 38066. Lat. $38^{\circ}24'N$,
long. $71^{\circ}52'W$. In 1569 fathoms. September
19, 1886. Albatross Collection (2718).
Length 376 mm.

U. S. N. M., no. 38105. Lat. $40^{\circ}6'N$, long.
 $68^{\circ}1'30''W$. In 984 fathoms. August 28,
1886. Albatross Collection (2710).
Length 386 mm.

U. S. N. M., no. 38155. Lat. $36^{\circ}45'N$,
long. $74^{\circ}28'30''W$. In 781 fathoms. October
25, 1886. Albatross Collection (2731).
Length 260 mm.

U. S. N. M., no. 38179. Lat. $37^{\circ}23'N$, long.
 $74^{\circ}2'W$. In 811 fathoms. October 26, 1886.
Albatross Collection (2735). Length 225 mm.

U. S. N. M., no. 38180. Lat. $37^{\circ}27'N$, long.
 $73^{\circ}33'W$. In 1152 fathoms. October 26, 1886.
Albatross Collection (2732). Length 195 to
319 mm. 9 examples.

1885, p. 18 (North Celebes; Mysore, New-Guinea). — Day, Fauna British India, vol. 2, 1889, p. 23. — Kent, Great Barrier Reef, 1893, p. 284, ^{plate 45, fig. 7} (Norman River, Queensland, Endeavour Estuary). — Weber, Zool. Ergebn. Reise. Niederl. Ost-Indien, deel 3, 1894, p. 404 (Maros, Celebes). — Perugia, Ann. Mus. Civ. Genova, vol. 16, 2 series, 1896, p. 50 (Simatobe, ^{Island} Montau). — Beaufort, Bijl. Dierk. Amsterdam, deel 19, 1913, p. 111 (Waigiu).
Toxotes jaculatus Elera, Cat. Fauna Filip., vol. 1, 1895, p. 490 (Batangas, Luzon, Masagbi, Cavite, Santa Cruz, Cebu).
Toxotes jaculatrix Seale and Beun, Proc. U. S. Nat. Mus., vol. 33, 1907, p. 245 (Zamboanga). — Jordan and Richardson, Bull. Bur. Fisher., vol. 27, 1908, p. 268 (Mindoro). — Seale, Philippine Journ. Sci., vol. 5, pt. 4, 1910, p. 282 (Sandakan, north Borneo).

U. S. N. M., No. 39231. Lat. $39^{\circ}42'N$,
long. $71^{\circ}17'W$. In 705 fathoms. September
19, 1887. Albatross Collection (2749).
Length 320 mm.

U. S. N. M., No. 39250. Lat. $38^{\circ}35'N$,
long. $73^{\circ}5'15''W$. In 554 fathoms.
September 18, 1887. Albatross
Collection (2744). Length 201 to 293 mm.
2 examples.

U. S. N. M., No. 39251. Lat. $38^{\circ}35'N$,
long. $73^{\circ}5'15''W$. In 554 fathoms.
September 18, 1887. Albatross Collection
(2744). Length 194 mm.

U. S. N. M., No. 39257. Lat. $38^{\circ}42'N$,
long. $73^{\circ}5'30''W$. In 224 fathoms.
September 18, 1887. Albatross Collection
(2745). Length 138 mm.

— Günther, Cruise of Curacoa, Branchley,
 1873, p. 410 (Misol, Moluccas). — Castelnau,
 Proc. Zool. Acclim. Soc. Victoria, vol. 2, 1873,
 p. 84 (Port Darwin, North Australia). —
Day, Fishes of India, pt. 1, 1875, p. 117
 (Andaman). — Bleeker, Atlas Ichth.
 Ind. Néerl., vol. 9, 1877, p. 4, plate (1) 363,
 fig. 4 (Samaratra, Batu, Lias, Singapore,
 Bintang, Rio, Java, Borneo, Celebes, Sangir,
 Sumbawa, Timor, Ternate, Batjan, Buru,
 Ceram, Amboina, New Guinea, Philippines).
 — Vaillant, Nouv. Arch. Mus. Paris, vol. 5,
 1873, p. 57 (Palawan). — Macleay, Proc. Linn.
 Soc. New South Wales, vol. 5, 1881, p. 399
 (Indeavour River, Queensland). — Károli,
 Termesz. Füzetek, Budapest, vol. 5, 1881,
 p. 156 (Singapore, Matang). — Sauvage,
 Bull. Soc. Philom. Paris, vol. 7, 7 series,
 1882, p. 150 (Mé Nam, Siam). — Meyer,
 Ann. Soc. Espan. Hist. Nat. Madrid, vol. 14,

U. S. N. M., No. 45703. Lat. $39^{\circ}53'30''$
N., long. $70^{\circ}17'30''$ W.

August 8, 1885. Albatross Collection
(2546). Length 140 to 190 mm.
3 examples.

U. S. N. M., No. 45704. Lat. $40^{\circ}02'$
long. $70^{\circ}27'$ W. May 25,
1883.

Albatross Collection (2025).
Length 140 to 190 mm. 4 examples.

U. S. N. M., No. 45705. Lat. $30^{\circ}44'N.$,
long. $79^{\circ}36'$ W. April 1, 1885.

Albatross Collection (2415). Length 111 to
212 mm. 9 examples.

U. S. N. M., No. 45706. Lat. $35^{\circ}40'N.$,
long. $74^{\circ}51'33''$ W. October 20,
1884.

Albatross Collection (2299).
Length 193 to 219 mm.

U. S. N. M., No. 45707. Lat. $43^{\circ}34'N.$,
long. $63^{\circ}56'30''$ W. July 11,
1885. Albatross Collection (2513).
Length 208 to 218 mm. 3 examples.

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21014	24402	24401	23150	23152	24730	26148	28996	28992	28909	28713	28731	28166
26163	26212	26065	26174	26193	26198	26134	26177	26177	26177	26177	26177	26177
28913	31605	31611	31646	31643	31721	31820	32908	31657	31530	31655	31655	31655
33392	33397	33387	33326	33337	33006	33008	33008	33008	33008	33008	33008	33008
33410	33418	33418	33418	33418	33418	33418	33418	33418	33418	33418	33418	33418
33450	33456	33456	33456	33456	33456	33456	33456	33456	33456	33456	33456	33456
33513												

35407	35430	35434	35432
35477	35487	35505	35504
35503	35506	35505	35505
35542	35588	35565	35565
35685	35654	35635	35635
38105	38065	38066	38066
38180	38155	38179	38179

~~39237~~
~~39256~~
~~39257~~

~~39267~~

Within marked from knowledge
 of every country. Reached 160
 Red Sea, South Africa, India,
 Persia.

U. S. N. M., No. 45708. Lat. $39^{\circ}54'30''$ ¹¹⁹⁵
N., long. $70^{\circ}20'W$. August 8,

1886. Albatross Collection (2547).

Length 115 to 198 mm. 4 examples.

U. S. N. M., No. 45709. Lat. $31^{\circ}26'N$,
long. $79^{\circ}7'W$. April 1, 1885.

Albatross Collection (2416). Length
105? to 210 mm. 10 examples.

U. S. N. M., No. 45710. Lat. $28^{\circ}36'15''N$,
long. $86^{\circ}50'W$. March 13, 1885.

Albatross Collection (2395). Length 185 to
228 mm. 3 examples.

U. S. N. M., No. 45711. Lat. $28^{\circ}34'N$,
long. $86^{\circ}48'W$. March 13, 1885.

Albatross Collection (2396). Length 235 mm.

U. S. N. M., No. 45712. Lat. $39^{\circ}48'30''N$,
long. $70^{\circ}40'30''W$. August 9,

1885. Albatross Collection (2554).

Length 165 to 316 mm. 2 examples.

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Toxotes jaculator (Pallas).

Sciaena jaculator Pallas, Philosoph. Trans.,
vol. 56, 1766, p. 187, plate 8, fig. 6. Batavia,
Java. ~~— Pallas, Reise. vol. 6, 1770,~~
~~4th ed.~~ — Bonnaterre, Tabl.
Encyclop. Ich., 1788, p. 121 (Sea of Indies).
Labrus jaculator Lacépède, Hist. Nat. Poiss.,
vol. 3, 1802, pp. 425, 464 (on Bonnaterre). —
Shaw, Gen. Zool., vol. 4, 1804, p. 485, plate 68.
Toxotes jaculator Cuvier, Règne Animal, vol.
2, 1817, p. 338. — Cuvier, Hist. Nat. Poiss.,
vol. 7, 1831, p. 234, fig. 192 (Ganges River,
~~Bombay~~ Dorey & are, ~~Malabar~~). — Günther,
Scombr. Règne An. Poiss., ^{vol. 1} 1829-44, plate 26,
fig. 3; vol. 3, Poiss., p. 19, ~~Malabar~~ ^{(India) and China}.
~~Malabar (Bate, Malabar, etc.)~~. —
Dau, Fishes of Malabar, 1865, p. 37 (copied).
— Peters, Monatsb. Akad. Wiss. Berlin,
1868, p. 257 (Calbigan, Basey River, Samar).

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U. S. N. M., no. 45713. Lat. $28^{\circ}42'N.$,
long. $86^{\circ}36'W.$ March 14, 1885.
Albatross Collection (2397). Length 140
mm.

U. S. N. M., no. 45714. Lat. $39^{\circ}33'N.$,
long. $72^{\circ}18'30''W.$ July 22, 1884.
Albatross Collection (2175). Length 118
to 133? mm. 2 examples.

U. S. N. M., no. 45715. Lat. $39^{\circ}58'25''$
 $N.$, long. $70^{\circ}37'W.$ May 25, 1883.
Albatross Collection (2027). Length 152 to
310 mm. 3 examples.

U. S. N. M., no. 45716. Lat. $39^{\circ}56'45''$
 $N.$, long. $70^{\circ}50'30''W.$ August 7,
1885. Albatross Collection (2537). Length
73 to 80 mm. 3 examples.

U. S. N. M., no. 45717. Lat. $35^{\circ}40'N.$,
long. $74^{\circ}51'30''W.$ October 20,
1884. Albatross Collection (2299). Length
150 to 189 mm. 2 examples.

15 transversely, 3 between lateral line and dorsal base. oligolepis

cc. Scales 33 or 34 in lateral series, 16 to 18 transversely, 5 between lateral line and dorsal base. chatareus

ccc. Scales 40 to 42 in lateral series, 19 or 20 transversely, 6 between lateral line and dorsal base. microlepis

cccc. Scales 46 in lateral series, 22 transversely. lorentzi
aa. Amblytoxotes. Scales small, 85 in lateral series; spinous vertical fins equally scaly as soft fins; dorsal rays 23, anal 23.

symonurus

U. S. N. M., No. 45718. Lat. $44^{\circ}34'N$,
long. $56^{\circ}41'45''W$. 1197
July 4,

1885. Albatross Collection (2471).

Length 178 mm.

U. S. N. M., No. 45730. Lat. $47^{\circ}40'N$,
long. $47^{\circ}35'30''W$. August 12,

1886. Albatross Collection (2697).

Length 114 to 194 mm. 7 examples.

U. S. N. M., No. 45731. Lat. $39^{\circ}53'30''N$,
long. $70^{\circ}17'30''W$. In 538 fathoms.
August 8, 1885. Albatross Collection
(2546). Length 200 to 298 mm. 2 examples.

U. S. N. M., No. 45732. Lat. $28^{\circ}34'N$,
long. $86^{\circ}48'W$. March 13, 1885.
Albatross Collection (2396). Length 162
to 267 mm. 2 examples.

U. S. N. M., No. 45733. Lat. $40^{\circ}53'30''N$,
long. $66^{\circ}24'W$. July 14, 1885.
Albatross Collection (2530). Length 303
mm.

Called the archer fishes as they are said to shoot insects alighting near the water, with drops of water expelled from the mouth. A single genus, with 5 species in the fresh waters and along the coasts of India, the Andamans, Burma, Siam, Malaya, the East Indies, Philippines, north Australia, New Zealand and Polynesia.

Analysis of the species.

a. Toxotes. Scales large, 22 to 48 in lateral series; spinous vertical fin scaly basally, greater terminal portion naked; dorsal rays 11 to 14, anal 11 to 17.

b. Dorsal spines 4; scales 28 to 30 in lateral series, 13 or 14 transversely, and 4 above lateral line to dorsal base.

jaculator

bb. Dorsal spines 5;

c. Scales 23 or 24 in lateral series, 14 or

U. S. N. M., No. 45735. Lat. $40^{\circ}16'30''$
N., long. $67^{\circ}26'15''$ W.

July 15, 1885. Albatross Collection (2533).
Length 328 to 390 mm.

U. S. N. M., No. 45736. Lat. $28^{\circ}38'30''$
N., long. $87^{\circ}2' W.$ March 13,
1885. Albatross Collection (2394). Length
255 to 258 mm.

U. S. N. M., No. 45737. Lat. $26^{\circ} N.$, long.
 $82^{\circ}57'30'' W.$ March 19, 1885.
Albatross Collection (2413). Length 283?
mm.

U. S. N. M., No. 45738. Lat. $28^{\circ}47'30''$
N., long. $87^{\circ}27' W.$ May 13, 1885.
Albatross Collection (2392). Length 290 mm.

U. S. N. M., No. 45740. Lat. $39^{\circ}53'30'' N.$,
long. $50^{\circ}51' W.$ June 23, 1885.
Albatross Collection (2429). Length
280 to 402 mm. ⁴Examples.
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Genus Toxotes Cuvier.

Toxotes Cuvier, Regne Animal, vol. 2, 1817, p. 338. Type Sciaena jaculatrix Pallas, monotypic.

Trompe Gistel, Nature, Thier., 1844, pp. XI, 109. Type Sciaena Jaculatrix Pallas, virtually as Trompe Gistel proposed to replace Toxotes Cuvier.

Ambletoxotes Bleeker, Arch. Néerl. Sci. Nat., vol. 11, 1876, p. 311. Type Toxotes squamosus Hutton, orthotypic.

Body rather deep and compressed. Head flattened above, mouth large, terminal, protractile, conic. Eye large. Lower jaw protrudes. Maxillary very slender, without supplemental bone. Fine teeth pluriserial in jaws, on palate, pterygoids and tongue. Preopercle denticulate. Scales 20 to 40 in lateral series. Head scaled. Dorsal spines 4 to 6, rays 11 to 14. Anal spines 3, rays 12 to 18.

1199
U. S. N. W., no. 45739. Lat. $41^{\circ}47'N.$,
long. $65^{\circ}37'30''W.$ July 13, 1885.
Albatross Collection (2528). Length
325 mm.

U. S. N. W., no. 45743. Lat. $39^{\circ}47'07''N.$,
long. $70^{\circ}35'W.$ August 9, 1885.
Albatross Collection (2552). Length
^{to 286?}
275 mm. 3 examples.

U. S. N. W., no. 45776. Lat. $32^{\circ}24'N.$,
long. $76^{\circ}55'30''W.$ October 21, 1885.
Albatross Collection (2628). Length 222
to 267? mm. 2 examples.

U. S. N. W., no. 45778. Lat. $39^{\circ}46'N.$,
long. $71^{\circ}19'W.$ July 18, 1886.
Albatross Collection (2687). Length 120
to 225 mm. 5 examples.

U. S. N. W., no. 45779. Lat. $47^{\circ}40'N.$,
long. $47^{\circ}35'30''W.$ August 12, 1886.
Albatross Collection (2697). Length 250
to 333 mm. 5 examples.

Family Toxotidae.

132

Body oblong ovate, head and trunk constricted below. Head strongly pointed. Mouth very protractile. Maxillary narrow. Teeth small, simple and acute in jaws, also on palate. Nostrils double on each side of snout. Gills 4, slit behind fourth. Gill membranes free from isthmus. Pseudobranchiae present. Branchiostegals 7. Lower pharyngeals separate. No subocular shelf. Entopterygoid present. Ribs sessile, behind parapophyses which begin from third vertebra. ^{Vertebrae 24, of which 14 caudal.} Scales ctenoid. Vertical fin densely scaled. Lateral line conspicuous. Dorsal and anal opposite, in posterior half of body. Dorsal spines 4 to 6, continuous with short rays. Anal spines 3.

1200

U. S. N. W., no. 45780. Lat. $39^{\circ}50'N.$,
long. $70^{\circ}26'W.$ July 16, 1886.
Albatross Collection (2680). Length
130? to 276 mm. 2 examples.

U. S. N. W., no. 45781. Lat. $44^{\circ}50'N.$,
long. $56^{\circ}19'30''W.$ August 22,
1886. Albatross Collection (2702).
Length 212 to 235 mm. 4 examples.

U. S. N. W., no. 45822. Lat. $32^{\circ}36'N.$,
long. $77^{\circ}29'15''W.$ October 21,
1885. Albatross Collection (2624).
Length 50 to 132 mm. 25 examples.

U. S. N. W., no. 45823. Lat. $32^{\circ}27'30''N.$,
long. $77^{\circ}20'30''W.$ October 21, 1885. Albatross Collection (2626).
Length 200 to 228 mm. 3 examples.

U. S. N. W., no. ~~45~~ 840. Lat. $32^{\circ}39'N.$,
long. $76^{\circ}50'30''W.$ May 6, 1880.
Albatross Collection (2677). Length 250
mm.

124131.

Length 35 mm.

56327 U. S. N. M. Cavite, Philippines.

G. A. Ling. Length 162 to 178 mm. 2 examples.

72217 U. S. N. M. Lubang, Philippines.

R. C. McGregor. Length 90 mm.

72584 and 72585. U. S. N. M. Java.

Meiers. Bryant and Palmer. Length 90 to 164 mm.

U. S. N. M., No. 45841. Lat. $32^{\circ}39'N$,
long. $77^{\circ}1'W$. May 6, 1886.

Albatross Collection (2676). Length
184 to 270 mm. $\frac{4}{5}$ examples.

U. S. N. M., No. 45842. Lat. $28^{\circ}21'N$,
long. $78^{\circ}33'W$. May 3, 1886.

Albatross Collection (2658). Length
208 to 280 mm. 5 examples.

U. S. N. M., No. 45843. Lat. $28^{\circ}40'N$,
long. $78^{\circ}46'W$. May 3, 1886.

Albatross Collection (2660). Length 88
to 180 mm. 4 examples.

U. S. N. M., No. 45927. Lat. $41^{\circ}53'N$,
long. $65^{\circ}35'W$. September 2, 1883.

Albatross Collection (2072). Length 362 mm.

U. S. N. M., No. 46807. Lat. $35^{\circ}40'N$,
long. $74^{\circ}51'W$. October 20, 1884.

Albatross Collection (2299). Length 85 to
147 mm. 2 examples.

2 examples. Buena Vista, Minors Island, mouth of
river. January 19, 1907. Length 51 to 55 mm.

12076. Cauti market. December 1, 1908.

Length 130 mm.

19727. Davao, Mindanao. May 16, 1908.

Length 30^{to 42} mm. 5 examples.

4941. Iloilo market. March 29, 1908.

Length 62 mm.

3 examples. Manila Bay. December 6, 1907. Length 44 to 63 mm.

4514. Manila market. December 12, 1907.

Length 148 mm.

7633. Mouth of Malampaya River.

December 26, 1908. Length 155 mm.

24131. Port San Vincent. November 15, 1908. Length 35 mm.

8525. Verde del Sur Island. April 6, 1907.

2 examples. Length 135 mm.

4115, 4116, 4118, 4119, ^{4120.} West side San Miguel

Bay. June 14, 1909. Length 103 to 124 mm.

5068. Sandakan, Borneo. February 29, 1908.

Length 180 mm.

17910. Sandakan. March 4, 1908. Length

106 mm.

1 example. Sandakan Bay. March 2, 1908.

Length 55 mm.

U. S. N. M., no. 48578.

1202

Length 500 mm.

U. S. N. M., no. 48627.

Length 386 mm.

U. S. N. M., no. 74320. Lat. $39^{\circ}50'N$,

long. $71^{\circ}43'W$.

Albatross Collection (2582). Length
102 to 104 mm. 2 examples.

U. S. N. M., no. 76843. Gulf of
St. Lawrence. June 26, 1915. Q. C.
Huntsman. Toronto University.

Length 241 mm.

U. S. N. M., no. 74319. Lat. $39^{\circ}2'40"N$,

long. $72^{\circ}40'W$.

September 1885.

Albatross Collection (2586). Length 73
to 168 mm. 12 examples.

Silvery-white, back with light
lead^{er} tinge. Sometimes with 6
deeper lead^{er} variably diffuse vertical
bands, with alternating narrower ones
in interspaces. On body sometimes
vertical series of rather sparse dusky
brown small vertical bars or spots.
Soft dorsal and anal more or less
grayish marginally, sometimes as brownish
streaks on soft dorsal membranes marg-
inally. Iris silvery white.

Red Sea, India, Ceylon, East Indies,
Philippines, China, Queensland,
Polynesia. Also in the Atlantic at
West Africa.

2 examp^{les}. Abuyao, Leyte. July 26, 1909.
Length 35 to 37 mm.

1203
U. S. N. M. 1 example.

Albatross Collection (2228). Length 200 mm.
U. S. N. M., 1 example.

Albatross Collection (2393). Length 280 mm.

U. S. N. M., 7 examples. Lat. $39^{\circ}22'N$,
Long. $71^{\circ}23'30''W$. In 1390 fathoms.
August 11, 1885. Albatross Collection
(2564). Length 267 to 368 mm.

U. S. N. M., 1 example. Lat. $39^{\circ}15'N$,
Long. $68^{\circ}8'W$. In 1782 fathoms. August
31, 1885. Length 460 mm. This example
with swollen abdomen and anal origin
begins behind end of depressed
pectoral tip. Albatross Collection
(2568).

Left vertical line. One lateral with 11 spines, anal with 3.

~~42987~~

~~48578~~

~~46807~~

~~45927~~

45740	(IIII) 45730	45731 (II)	45732	45733	(I) 45735
	(II) 45736	45739	45737	45738	(II) 45740
	(I) 45743	(I) 45780	45776	(I) 45778	45779
	(II) 45823	(IIII) 45781	45822		
	(IIA) 45842	(IIII) 45841	45840		
	45843				

(II) 45703	(I) 45706				
(III) 45704	(II) 45707	(II) 45710			
(IIII) 45705	(II) 45712	45711	45713	45714 (I)	
(IIII) 45708	(II) 45715				
(IIA) 45709					
(III) 45716					
45717					
45718					

U. S. N. M., 7 examples. Lat. $39^{\circ}54'N.$,
long. $67^{\circ}5'30''W.$ In 1813 fathoms.
September 1, 1885. Albatross Collection
(2570). Length 215 to 355 mm.

U. S. N. M., 4 examples.

Albatross Collection (2584). Length 245
to 288 mm.

U. S. N. M., 8 examples.

Albatross Collection (2589). Length 68 to
226 mm.

U. S. N. M., 4 examples. No data.
Length 160 to 404 mm.

vol. 18, 1857, p. 360 (Blingir, Banka).

— Bleeker, Verh. Batav. Genoot.

(Nat. Ich. Bengal), vol. 25, 1853, p.

38. — Peters, Arch. Naturg., 1855, p.

247 (Mozambique). — Bleeker, Act.

Soc. Ind. Neerl., vol. 1, no. 3, 1856, p. 7

(Macassar); vol. 2, no. 7, 1857, p. 5

(Amboina).

Homodactylus rhombus Cantor, Journ.

Nat. Soc. Bengal (Cat. Malay. Fish.),

1849 (1850), p. 172 (Pinang, ^{Singapore} Malaysia). —

Griffith, Ann. Kingd. Cuvier, 185,

pl. 5, fig. 2. — Bleeker, Ned. Tijds.

Dierk., vol. 1, 1863, p. 240 (Obi).

1205

Coryphaenoides berglax (Lacépède)

Macrurus berglax Lacépède, Hist. nat. Poiss., vol. 3, p. 169, pl. 10, fig. 1, 1800 (type locality: Greenland; Hindmore).

— Jordan, Evermann, Clark, Rep. U. S. Comm. Fisher., pt. 2, p. 205, 1930 (reference).

Macrurus berglax Jordan, Rep. U. S. Fish Comm., pt. 13, p. 919, 1885 (1887) (reference).

— Goode and Bean, Oceanic Ichth., p. 391, pl. —, fig. 334, 1895 (Gulf Stream, 677 fathoms). — Jordan and Evermann, Bull. U. S. Nat. Mus., no. 47, pt. 3, p. 2582, 1898 (copied). — Garman, Mem. Mus. Comp. Zool., vol. 24, p. 396, 1899 (reference).

Macrurus (Macrurus) berglax Brauer, Deutsch. Tiefsee Exped. Valdivia, vol. 15, p. 390, 1906 (reference).

1206

Coryphaenoides bergleyi Gilbert and Hubbs,
Proc. U. S. Nat. Mus., vol. 51, p. 144,
1916 (reference).

Coryphaena rupestris (not Gunner)
Müller, Prodr. Zool. Dan., p. 43, 1776
(Norway). — Fabricius, Faun. Groenland,
p. 154, 1780 (Greenland). — Gmelin,
Syst. Nat. Linn., pt. 1, p. 1195, 1789
(Greenland). — Walbaum, Artedi
Pisc., vol. 3, p. 104, 1792 (on Fabricius).

Macrurus rupestris Bloch, Naturges.
Ausl. Fische, vol. 2, p. 152, pl. 177,
1786 (Tinnodliorvik harbor). —
Bonnaterre, Tabl. Ichth., p. 62, pl. 35,
fig. 133, 1788 (Greenland). — Walbaum,
Artedi Pisc., vol. 3, p. 670, 1792 (on
Bloch). — Shaw and Nodder, Natural.
Miscellany, vol. 12, pl. 462, 1800
(northern seas).

Macrurus rupestris Gill, Cat. Fishes
East Coast U. S., p. 49, 1861 (name). —
Günther, Cat. Fishes Brit. Mus., vol.

1207

4, p. 390, 1862 (Greenland). — Gill,
Rep. U. S. Fish Comm., pt. , p. 795,
1871 (1873) (name).

Macrurus (Coryphaenoides) rupestris
Murray and Hjort, Depths of the
Ocean, p. 397, 1912 (Faroe-Shetland
Channel; Faroe Banks; 750 to 840
meters).

Macrurus fabricii Sundevall, Vet. Akad.
Handl. Stockholm, p. 6, 1840 (type locality:
).

Macrurus fabricii Goode, Proc. U. S. Nat.
Mus., vol. 3, p. 475, 1880 (off Gravesend,
New York). — Jordan and Gilbert,
Bull. U. S. Nat. Mus., no. 76, p. 811,
1883 (compiled). — Günther, Rep. Voy.
Challenger, vol. 23, p. 130, 1887
(Finnmarken, Greenland, New England).
— Smitt, Scandinav. Fishes, vol. 2, p.
587, fig. 140, 1895 (Tromsö; Hammerfest).

Depth $5\frac{2}{5}$ to $6\frac{1}{5}$; head $4\frac{1}{5}$, width $1\frac{1}{2}$ to $1\frac{7}{8}$. Snout to eye $2\frac{7}{8}$ to $3\frac{1}{8}$ in head; eye $4\frac{2}{3}$ to 5, $1\frac{1}{2}$ to 2 in snout, greater than interorbital; orbit 3 to $3\frac{2}{5}$ in head, 1 to $1\frac{1}{5}$ in snout; maxillary reaches $\frac{1}{2}$ to $\frac{3}{4}$ in eye, length from front end $2\frac{4}{5}$ to 3 in head; mandibular barbel $1\frac{1}{5}$ to $1\frac{1}{3}$ in eye; teeth small, strong, alike, conic, short, 4 to 6 irregular transverse rows in jaws; interorbital $5\frac{2}{3}$ to 6 in head, low, depressed medially. Gill rakers 0+7, low-spinescent tubercles on second arch, $\frac{1}{2}$ of gill filaments, which $\frac{1}{4}$ of eye.

61

Centropomus rhombus Lacépède, Hist.
Nat. Poiss., vol. 3, 1804, pp. 303, 304
(Red Sea).

Psettus rhombus Valenciennes, Hist. Nat.
Poiss., vol. 7, 1831, p. 184 (Pondichery,
Mauritius, Massarah, Red Sea). —

Valenciennes, Règne Animal Cuvier, Ill.
1839, Pl. 42, fig. 2. — Bleeker, Nat.
Syss. Ned. Indië, vol. 3, 1852, p. 58
(Singapore); p. 670 (Wahai), p. 718
(Tandjong Berikat at Koba, Banka),
p. 741 (Boeloekomba); vol. 7, 1854, p. 361
(Batjan); vol. 8, 1855, p. 393 (Amboina);
vol. 9, 1855, p. 259 (Sibogha); vol. 10, 1856,
p. 347 (Rio, Bintang); vol. 12, 1856, p.
214 (Nias); vol. 13, 1857, p. 284 (Tjirutjip,
Biliton); vol. 15, 1858, p. 200 (Goram);

Scales 117 to 120 in lateral line to pseudocaudal; 6 or 7 above, 17 below, 13 predorsal forward $\frac{2}{3}$ to hind edge of orbit. Scales with ~~small~~ spinuliferous horizontal apical keels, last spine longest and extends well behind scale edge; circuli fine, not extended apically.

D. II, 10 — 112 to 125, second simple ray entire or with row of low feeble points along its front edge, length $1\frac{3}{5}$ to 2 in head; interdorsal space $5\frac{3}{5}$ to $6\frac{1}{3}$; A. 115 to 130, fin height $3\frac{1}{3}$ to 4; pectoral ^{rays} I, 18, fin $1\frac{3}{4}$ to 2 in head; ventral rays I, 7, fin 3 to $3\frac{1}{2}$.

1907 (1908), p. 269 (Liparon, Iloilo,
Caluyuan). — McCulloch, Rep. Fish.
Bureau, vol. 4, pt. 4, October 31, 1916,
p. 188 (off Bowen, Queensland, in 16
fathoms). — McCulloch, Proc. Linn. Soc. New South Wales, vol. 62,
1922, p. 21 (Cebu).

Scomber rhombus Forsk., Descript.

Animal, 1775, pp. xii, 58. Ogilby, Red
Sea. — Bonnaterre, Tabl. Ichth., 1788, p.
142 (Red Sea). — Gmelin, Syst. Nat. Linn.,
1789, p. 1338 (Red Sea). — Walbaum,
Arted. Pisc., vol. 3, 1792, p. 221 (on
Forsk.). — Schneider, Syst. Ichth.
Bloch, 1801, p. 34 (Red Sea).

Centroscyllium rhombus Gmelin, l.c.

(on Forsk.). — Walbaum, l.c., p. 699.

(on Forsk.).

Largely uniform brown. Iris pale or brown. Inside mouth brown and inside gill opening blackish brown. Fins all brown. Many examples show gray to dark neutral gray about opercles below.

North Atlantic. This species is quite variable with age though as pointed out by Goode and Bean it is distinguished from Coryphaenoides bairdii by its longer snout and more posterior position of the vent. It is also known by its large rough scales, the spines forming into longitudinal rows.

1907 (1908), p. 269 (Aparri, Iloilo, Calayan). — McCulloch, Rep. Fish. Endeavour, vol. 4, pt. 4, October 31, 1916, p. 188 (off Bowen, Queensland, in 16 fathoms). — Fowler and Bean, Proc. U. S. Nat. Mus., vol. 62, 1922, p. 21 (Cebu). — Fowler, Proc. Acad. Nat. Sci. Phila., 1923, p. 38 (Madagascar). — Fowler, Bishop Mus. Bull., no. 22, 1925, p. 33 (Samoa).
{ — McCulloch, Australian Zool., vol. 2, pt. 3, February 10, 1922, p. 89, fig. 225a (New South Wales).

U. S. N. M., No. 21615.

1211

Length 758 mm.

U. S. N. M., No. 22268.

Length 850 mm.

U. S. N. M., No. 22287.

Length 580? mm.

U. S. N. M., No. 22874.

R. E. Earll. 2932

Length 445 mm. In poor condition.

— Pellegrin, Bull. Soc. Zool. France, tome 39, 1914, p. 227 (Mahambo and Ft. Durphin, Madagascar). — Boulenger, Cat. Fresh. Water Fish. Af., vol. 3, 1915, p. 121, fig. 90 (Zanzibar, Zambesi River mouth, Rodriguez). — McCulloch, Austral. Zool., vol. 2, pt. 3, February 1922, p. 89, Pl. 25, fig. 225a (New South Wales).

Monodactylus argenteus Bleeker, Versl. Akad. Wet. Amsterdam, deel 2, serie 2, 1868, p. 291 (Rio, Bintang). — Bleeker, Faun. Madagascar, Pollen, 1874, p. 65.

— Jordan and Seale, Bull. Bur. Fisher., vol. 26, 1904 (1907), p. 32 (Cavite). —

Evermann and Seale, l.c., p. 71 (Bulan).

— Jordan and Richardson, l.c., vol. 27,

U. S. N. M., no. 28604. Off Grand ^{12/2}
Banks. Gloucester Schooner Johnson.
U. S. Fish Comm. (972). June 22, 1880.
Length 553 to 755 mm. 3 examples.

U. S. N. M., no. 28605. No locality.
Gloucester Schooner Johnson. May 11, 1880.
U. S. Fish Comm. (962). Length 542 to
600 mm. 2 examples.

U. S. N. M., no. 33427. Lat. $41^{\circ}53'N$,
long. $65^{\circ}35'W$. In 858 fathoms. September
2, 1883. Albatross Collection (2072).
Length 740 mm.

U. S. N. M., no. 38063. No locality.
Grampus Collection. September 1886.
Length 900 mm.

Kasugbu, Batangas, Pasacao,
Camarines, Curimas, Ilocos). —

Weber, Zool. Jahrb., band 10, 1897, p. 142

(Cape of Good Hope, Kuyana Lagoon,

Illos River). — Duncker, Mitteil. Nat.

Mus. Hamburg, band 21, 1903 (1904), p. 157

(Singapore). — Pellegrin, Bull. Soc.

Zool. France, tome 30, 1905, p. 83 (Baie

d'Along, Tonkin). — Steindachner, Denks.

Abhand. Wiss. Wien, band 71, abth. 1, 1907, p.

144 (Tamarida, South Arabia). —

Pellegrin, Bull. Mus. Hist. Nat. Paris,

tome 13, 1907, p. 203 (Sardians, Madagascar).

— Regan, Trans. Linn. Soc. London, vol. 12,

pt. 3, 1908, p. 254 (Seychelles). — Jugmayer,

Abhand. Kon. Bayer. Akad. Wiss., band 26,

abth. 6, 1913, p. 13 (Mekran and Oman).

12/13

Coryphaenoides boops (Garman)

Macrurus boops Garman, Mem. Mus.

Comp. Zool., vol. 24, p. 202 (396), 1899
(type locality: lat. $7^{\circ}21'N.$, long. $79^{\circ}35'$,
511 fathoms, off Colombia; lat. $7^{\circ}9'N.$,
long. $81^{\circ}8'30''W.$, 546 fathoms).

Macrurus (Macrurus) boops Brauer,
Deutsch. Tiefsee Exped. Valdivia, vol.
15, p. 388, 1906 (reference).

Macrurus boops Jordan, Evermann, Clark,
Rep. U. S. Comm. Fisher., pt. 2, p. 205,
1930 (reference).

Coryphaenoides boops Gilbert and Hubbs,
Proc. U. S. Nat. Mus., vol. 51, p. 143, 1916
(reference).

1214

Coryphaenoides brevibarbis (Goode and Bean)

Chalinura brevibarbis Goode and Bean,
Oceanic Ichth., p. 413, 1895 (type
locality: lat. $41^{\circ}9'40''$ N., long. $66^{\circ}2'20''$ W.,
Gulf Stream, 1255 fathoms; lat. 38° to
 41° N., long. 60° to 71° W., 956 to 1731 fathoms).

— Garman, Mem. Mus. Comp. Zool., vol.
24, p. 395, 1899 (reference).

Macrurus (Chalinura) brevibarbis Murray
and Hjort, Depths of the Ocean, p. 398,
1912 (lat. $45^{\circ}26'$ N., long. $9^{\circ}20'$ W., 2570
fathoms).

Coryphaenoides brevibarbus Gilbert and
Hubbs, Proc. U. S. Nat. Mus., vol. 51,
p. 142, 1906 (reference).

1215

Depth 5 to 6; head $4\frac{1}{4}$ to 5, width $1\frac{7}{8}$ to 2. Snout $3\frac{1}{2}$ to $4\frac{1}{4}$ in head; eye 6 to $6\frac{1}{2}$, $1\frac{2}{5}$ in snout, $1\frac{1}{3}$ to $1\frac{3}{4}$ in interorbital; maxillary reaches $\frac{4}{5}$ to or opposite hind eye edge, expansion 1 to $1\frac{1}{5}$ in eye, length from front end $2\frac{1}{4}$ to $2\frac{2}{5}$ in head; upper teeth in villiform band with 7 or 8 irregular rows transversely and outer row of enlarged curved canine like teeth; lower teeth in row of similar canines below, but no villiform teeth; interorbital $3\frac{1}{4}$ to $4\frac{1}{2}$ in head, low, convex. Gill rakers 0 + 9 low spinescent tubercles on second gill arches, $2\frac{1}{5}$ in.

Wales, vol. 3, 1877, p. 235 (Singapore,
Malacca, Brisbane River mouth). —
Sinther, Phila. Trans. Roy. Soc. London,
vol. 168, 1879, pp. 470, 471 (Rodriguez). —
Klunzinger, Sitzb. Akad. Wiss. Wien,
band 80, heft 1, 1879, p. 379 (Endeavor
Port Darwin,
River Port Denison). — Klunzinger,
Fisch. Roth. Meer., 1884, p. 117. — Meyer,
Ann. Soc. Esp. Hist. Nat. Madrid, vol. 14,
1885, p. 25 (North Celebes and Macassar).
— Boulenger, Proc. Zool. Soc. London, 1887,
p. 661 (Muscat). — Day, Faun. British
India, vol. 2, 1889, p. 180, fig. 62. — Kent, Great
Barrier Reef, 1893, p. 290 (Moreton Bay,
Queensland). — Ogilby, Edible Fishes of
New-South Wales, 1893, p. 91. — Elera, Cat.
Faun. Filip., vol. 1, 1895, p. 514 (Luzon),

1476

in gill filaments, which $\frac{1}{2}$ in eye.

Scales (pockets) 100 to 124 in lateral line to pseudocaudal; 7 or 8? above, 22 below. Scales with 7 or 8 slightly convergent apical series of spinules, last of which extend beyond scale edge; circuli moderate, fine, complete.

D. II, 8 — 76 to 105?, second simple ray slender, with row of small antrorse serrae along front edge, length $1\frac{1}{3}$? to $1\frac{2}{5}$? in head; interdorsal space $3\frac{1}{5}$ to $3\frac{2}{3}$; A. 82 to 110?, fin height 3; pectoral rays I, $1\frac{1}{2}$ to I, 15, fin $1\frac{1}{3}$ to $1\frac{7}{8}$ in head; ventral rays

Psettus argenteus Richardson, Voy.

Erebus and Terror, ^{Schth.} ~~Atoll~~, 1844-48, p.

57, plate 35, figs. 1-3 (Sydney).

— Richardson, Sch. China Jap., 1846, p.

246 (Canton and Norfolk Island). —

Günther, Cat. Fish. Brit. Mus., vol. 2, 1860,

p. 487 (Moluccas, Amboina, Malay Peninsula, Ceylon, Australia). — Kner, Reise Novara,

Fische, 1865, p. 164 (Madras). — Day, Fishes

of Malabar, 1865, p. 99. — Playfair, Fishes

of Zanzibar, 1866, p. 64 (Aden and Zanzibar).

— Klunzinger, Verh. zool.-bot. Ges. Wien,

band 20, 1870, p. 794 (Koseir). — Günther,

Journ. Mus. Godeffroy, band 5, Heft 11, 1876,

p. 140 (Samoa). — Day, Fishes of India,

pt. 2, 1876, p. 235, plate 513, fig. 5.

— Castelnau, Proc. Linn. Soc. New-South

1217

I, 8, fin $1\frac{1}{4}$ to 2.

Largely uniform brown. Head paler, opercle and branchiostegal region gray to blackish. Iris gray. Inside mouth and gill opening black.

Western North Atlantic.

U. S. N. M., no. 32272.

Length 353 mm.

60

Monodactylus argenteus (Linnaeus).

Chaetodon argenteus Linnaeus, Syst. Nat.,

Ed. 10, 1758, p. 272. In India. — Linnaeus,

Linnaeus. Acad., vol. 4, 1759, p. 249. —

Linnaeus, Syst. Nat., Ed. 12, 1766, p. 461.

(Indian Sea). — Gmelin, Syst. Nat.

Linnaeus, 1789, p. 1242 (Indian Sea). —

Walbaum, Arted. Pisc., vol. 3, 1792, p.

441 (on Linnaeus). — Forster, Faun. Indica,

1795, p. 15. — Schneider, Syst. Ichth.

Bloch, 1801, p. 230 (Indian Sea).

Acanthopodus argenteus Lacépède, Hist.

Nat. Poiss., vol. 4, 1802, pp. 558, 559

(Sea of India).

U. S. N. M., No. 33269.

1218

Length 310 mm.

U. S. N. M., No. 33449.

Albatross Collection (2072).

Length 410 mm.

U. S. N. M., No. 33453. Lat. $41^{\circ}9'40''$

N., long. $66^{\circ}2'20''$ W. In ~~325~~.

September 4, 1883. Albatross Collection
(2077). Length 270 to 325 mm. Five
examples, of which one type and
others paratypes.

58

vol. 3, 1915, p. 120 (Red Sea, Mombasa,
Durban, Illuro River, Algoa Bay,
River Chukuma).

Psettus commersonii Cuvier, Hist. nat.

Pois., vol. 7, 1831, p. 187. Vanicolo.

Stromatoidea layardi Castelnau,

Mém. Poiss. N. Austral., 1861, p. 44.

Algoa Bay.

Psettus orbicularis Guichenot, Mém.

Soc. Sci. Cherbourg, tome 12, 1866, p. 136.

Madagascar.

Psettus argenteus (part) Klunzinger,

Fisch. Roth. Meer., 1884, p. 117.

Psettus falcipinnis Boulenger, l.c.,

(p. 121) fig. 89 (evidently slip for
falciformis).

U.S.N.M., No. 35560.

1219

Albatross Collection (2210). Length
333 mm.

U.S.N.M., No. 38166. Lat. $36^{\circ}35'N$,
Long. $74^{\circ}3'W$.

Albatross Collection. Length 270 mm.

U.S.N.M., No. 47501.

Albatross Collection (2630). Length 767 mm.

U.S.N.M., No. 83323. Lat. 38° N ,
Long. 68° W .

Albatross Collection. Length 410 mm.

U.S.N.M., No. 84539.

Albatross Collection (2568). Length 306 mm.

Monodactylus falciformis (Lacépède).⁵⁷
Monodactylus falciformis Lacépède,
Hist. Nat. Poiss., vol. 3, 1801, p. 132;
vol. 2, 1800, plate 5, fig. 4. no locality.
(Du Commerson.)

Psettus falciformis Günther, Cat. Fish.
Brit. Mus., vol. 2, 1860, p. 488 (Red Sea).
— Day, Fishes of India, pt. 2, 1876, p.
234, Pl. 51a, fig. 6 (Madras). —
Day, Fann. British India, vol. 2, 1889, p.
180. — Sauvage, Hist. Madagascar, Poiss.,
1891, p. 334 (types of Psettus orbicularis).
— Weber, Zool. Jahrb. Syst., band 10,
1897, p. 142 (Illovo River, Natal). —
Boulenger, Cat. Fresh Water Fish, Afr.,

1220

Coryphaenoides bucephalus (Garman)

Macrurus bucephalus Garman, Mem.
Mus. Comp. Zool., vol. 24, p. 195 (396),
~~1899~~ pl. 44, 1899 (type locality:
lat. $23^{\circ}16'N$, long. $107^{\circ}31'W$, in 852
fathoms; lat. 1° to $7^{\circ}N$, long. 79° to $86^{\circ}W$,
134 to 1573 fathoms; Gulf of California
to Colombia).

Macrurus (Macrurus) bucephalus Brauer,
Deutsch. Tiefsee Exped. Valdivia, vol.
15, p. 390, 1906 (reference).

Macrurus bucephalus Jordan, Evermann,
Clark, Rep. U. S. Comm. Fisher., pt. 2,
p. 205, 1930 (reference).

Coryphaenoides bucephalus Gilbert and
Hubbs, Proc. U. S. Nat. Mus., vol. 51,
p. 143, 1916 (reference).

1221

Coryphaenoides bulbiceps (Garman)

Macrurus bulbiceps Garman, Mem. Mus. Comp. Zool., vol. 24, p. 194, pl. 44, figs. 1-16, 1899 (type locality: lat. $5^{\circ}43'N$, long. $85^{\circ}50'$, 978 fathoms, off Cocos Island).

Macrurus bulbiceps Jordan, Evermann, Clark, Rep. U. S. Comm. Fisher., pt. 2, p. 205, 1930 (reference).

Hematomus bulbiceps Gilbert and Hubbs, Proc. U. S. Nat. Mus., vol. 51, p. 143, 1916 (reference).

1222

Coryphaenoides burragei (Gilbert)

Macrourus burragei Gilbert, Bull. U. S. Fish Comm., vol. 23, pt. 2, p. 668, fig. 260, 1903 (1905) (type locality: off southern Oahu, 294 to 330 fathoms).

Macrurus (Macrurus) burragei Brauer, Deutsch. Tiefsee Exped. Albatross, vol. 15, p. 389, 1906 (reference).

Lionurus burragei Gilbert and Hubbs, Proc. U. S. Nat. Mus., vol. 51, p. 146, 1916 (reference).

Coryphaenoides burragei Fowler, Mem. Bishop Mus., vol. 10, p. 86, 1928 (compiled).

1223

Depth $5\frac{4}{5}$; head $5\frac{1}{2}$, width $1\frac{2}{3}$.
Snout $4\frac{1}{4}$ in head; eye $3\frac{1}{4}$, greatly
exceeds snout or interorbital;
preoral region short and nearly
vertical, about equals eye; maxillary
reaches $\frac{1}{4}$ in eye, length from front
end 3 in head; mandibular barbel
 $1\frac{1}{2}$ in eye; teeth in rather broad
villiform bands in jaws, 9 or 10 in
irregular transverse series; interorbital
4 in head, low, nearly level. Gill
rakers $2 + 7$, low spinous tubercles
on second arch, $\frac{1}{2}$ of gill filaments,
which $2\frac{1}{3}$ in eye.

Scales 130 in lateral line to
pseudocaudal; 14 above, 23 below,
40 predorsal of which 23 forward

56

hard spines elongate, with only tips protruding from scale skin. Ventrals very small or rudimentary, below pectorals.

Africa, Southern Asia and Australasia.
Three species known, the following
and Monodactylus sebae from West Africa.

Analysis of the species.

a. Body ovoid, depth $1\frac{1}{2}$; silvery, young with 7 or 8 brown vertical streaks.

falciformis

aa. Body deeply ovoid, depth $1\frac{2}{3}$ to $1\frac{3}{5}$; silvery, at all ages black ocular band and second from dorsal spines to opercle.

argenteus

opposite hind eye edge. Scales with about 13 or 14 nearly parallel rows of rather long slender apical spinules, last well extended beyond hind scale edge; circuli moderate, obscure apically.

D. II, 10 - 11 1/4?, second simple ray slender, with row of small antrorse denticles along its front edge, length slightly greater than head or 4 7/8 to pseudocaudal; interdorsal space 2 4/5; A. 105, fin height 2 1/3; pseudocaudal 2; pectoral rays I, 19, fin 1 2/5 in head; ventral rays I, 8, fin 1 1/4.

Largely uniform brown, more or

layardi Castelnau, monotypic.
Psettias (Jordan) Jordan and Seale,
 Bull. Bur. Fisher., vol. 25, 1905 (1906),
 p. 236. Type Psetta sebae ^{Valenciennes} ~~Beernard~~,
 orthotypic.

Body very deep, strongly compressed.
 Mouth moderate, protractile. Maxillary
 exposed. Villiform teeth in jaws, on
 vomer, palatines and tongue.
 Pseudobranchial large. Branchiostegals 6.
 Vertebrae 23 or 24 (= 9 or 10 + 14). Air
 bladder bifurcate behind. Scales very
 small, ctenoid. Lateral line complete.
 Dorsal and anal elongate, thickly scaled,
 former with 7 or 8 and latter with 3
 spines; front spines short and isolated,

less grayish anteriorly or on head.
Branchiostegal region neutral
dusky or gray. Iris pale. Fins
pale.

Hawaiian Islands.

U. S. N. M., No. 51641.

off southern coast
of Oahu. In 294 to 330 fathoms.

Albatross Collection (3917). Length
270 mm.

54

Genus Monodactylus Lacépède.

Monodactylus Lacépède, Hist. Nat. Poiss.,
vol. 3, 1802, p. 131. Type Monodactylus

falciformis Lacépède, monotypic.

Centropodus Lacépède, l.c., p. 303. Type

Scomber rhombus Forskål, monotypic.

Acanthopodus Lacépède, l.c., vol. 4, 1803,

p. 558. Type Chaetodon argenteus

Linnaeus, designated by Jordan and

Evermann, Genera of Fishes, part 1, 1917,

p. 64.

(non Klein 1775)

Psettus (Commerson) Cuvier, Règne

Animal, vol. 2, 1817, p. 336. Type

Scomber rhombus Forskål, designated

by Jordan and Evermann, l.c., p. 128.

Stromatoidea Castelnau, Mem. Poiss. Afr.

Austral., 1861, p. 44. Type Stromatoidea

1226

Coryphaenoides camurus (Smith and Radcliffe)

Macrourus camurus Smith and Radcliffe,
Proc. U. S. Nat. Mus., vol. 43, p. 122,
pl. 27, fig. 2, 1912 (type locality:
east Palawan, in 1105 fathoms).

Coryphaenoides camurus Gilbert and Hubbs,
Proc. U. S. Nat. Mus., vol. 51, p. 144, 1917
(reference); Bull. U. S. Nat. Mus., no.
100, vol. 1, p. 421, 1920 (type).

Depth $5\frac{3}{5}$; head 5, width 2. Snout
to eye $3\frac{1}{2}$ in head; eye $4\frac{3}{5}$, $1\frac{1}{4}$ in
snout, $1\frac{1}{5}$ in interorbital; orbit
 $3\frac{1}{3}$ in head, $1\frac{1}{8}$ times snout, $1\frac{1}{8}$
times interorbital; maxillary reaches
eye center, length from front end
 $2\frac{1}{4}$ in head; mandibular barbel
 $3\frac{1}{5}$; teeth in narrow villiform bands
in jaws, 2 or 3 irregular transverse
series; interorbital $3\frac{1}{2}$ in head,
low, level. Gill rakers $2+9$. low
tubercles on second arch, about $2\frac{1}{2}$
in gill filaments, which $\frac{1}{2}$ of eye.

Scales (pockets) about 125?
in lateral line; 15 above, 23? below,
22 forward on predorsal till
opposite hind edge of orbit. Scales
with 3 rows of rather large
slender apical spines, last of
which project beyond hind scale
edge; circuli few, coarse, more
or less complete.

D. II, 9 - 95?, second simple ray
slender, with row of antrorse spines
along its front edge, length $1\frac{4}{5}$?
in head; A. 115?, fin height 4?;
pectoral rays I, 21, fin $1\frac{4}{5}$? in
head; ventral I, 8, fin 2, first
simple ray ends in short filament.

Uniform brown. Sides of head,
breast and belly blackish brown.
Iris dark neutral gray. Inside
mouth dark gray. Inside gill

Analysis of the genera.

a. Dorsal spines 8; scales finely ctenoid.
Monodactylus

aa. Dorsal spines 5; scales cycloid.
Schuettea

1228

opening blackish brown. Fins all brown.

Philippines.

U. S. N. M., No. 72939. Fondeadó Island (S.E.), N. 29 E., 23 miles (lat. $9^{\circ}34'38''$ N., long. $118^{\circ}45'$ E.), eastern Palawan and vicinity. In ¹¹⁰⁵ ~~1105~~ fathoms. April 3, 1909.

Albatross Collection (5428). Length 98 mm. Type.

52

Family Monodactylidae.

Palate with teeth. Nostrils double each side. Gill membranes free from isthmus. Branchiostegals 6 or 7. Lower pharyngeals separate. Subocular shelf present. Ribs all sessile, inserted behind transverse processes when these present. Spinous dorsal much reduced. Anal spines 3. Ventrals rudimentary or absent.

Shore fishes of Africa, Southern Asia and Australasia. A few enter tropical rivers.

1229

Coryphaenoides capito (Garman)

Macrurus capito Garman, Mem. Mus. Comp. Zool., vol. 24, p. 200 (396), 1899
(type locality: lat. $7^{\circ}31'30''$ N., long. $79^{\circ}14'$, in 485 fathoms, Gulf of Panama; off Acapulco; 493 fathoms).

Macrurus (Macrurus) capito Brauer,
Deutsch. Tiefsee Exped. Valdivia,
vol. 15, p. 388, 1906 (reference).

Macrourus capito Jordan, Evermann,
Clark, Rep. U. S. Comm. Fisher., pt. 2,
p. 205, 1930 (reference).

Coryphaenoides capito Gilbert and Hubbs,
Proc. U. S. Nat. Mus., vol. 51, p. 143, 1916
(reference).

Coryphaenoides carapinus Goode and Bean

Coryphaenoides carapinus Goode and Bean,
Bull. Mus. Comp. Zool., vol. 10, pp.
191, 198, 1883 (type locality: lat. $39^{\circ}38'20''$ N., long. $70^{\circ}56'W.$, 1241 fathoms; lat.
 38° to 39° N., long. 70° to 73° W., 722 to
1002 fathoms). — Miner, Rep. U. S.
Fish Comm., pt. 11, p. 185, 1883 (1885)
(lat. $39^{\circ}29'N.$, long. $70^{\circ}58'40''W.$, in
1342 fathoms; lat. $39^{\circ}22'20''N.$, long.
 $70^{\circ}52'20''W.$, in 1451 fathoms);
Science, vol. 2, p. 617, November 9,
1883 (Albatross Stations 2095 and 2096).

— Parber, in Benedict, Rep. U. S. Fish
Comm., pt. 12, p. 101, 1884 (1886) (lat.
 $39^{\circ}46'30''N.$, long. $70^{\circ}14'45''W.$, 1060 fathoms).

— Jordan, Rep. U. S. Fish Comm., pt. 13,
p. 919, 1885 (1887) (reference). —
Günther, Rep. Voy. Challenger, vol. 22,
p. 138, 1887 (note). — Goode and Bean,
Oceanic Ichth., p. 404, fig. 339, 1895
(lat. 29° to 41° N., long. 65° to 73° W., 662 to

1231

1451 fathoms). — Jordan and Evermann,
Bull. U. S. Nat. Mus., no. 47, pt. 3,
p. 2579, 1898 (copied). — Gilbert
and Hubbs, Proc. U. S. Nat. Mus., vol.
51, p. 143, 1916 (reference). — Jordan,
Evermann, Clark, Rep. U. S. Comm. Fisher,
pt. 2, p. 205, 1930 (reference).

Depth $6\frac{4}{5}$ to 7; head 6 to $6\frac{1}{3}$, width
2 to $2\frac{1}{5}$. Snout to eye 3 to $3\frac{1}{3}$ in
head; eye $4\frac{7}{8}$ to $5\frac{1}{4}$, $1\frac{1}{2}$ to $1\frac{3}{4}$ in
snout, $1\frac{7}{8}$ to 2 in interorbital;
maxillary reaches $\frac{1}{2}$ to $\frac{4}{5}$ in eye,
length from front end $2\frac{3}{5}$ to $2\frac{2}{3}$
in head; teeth in villiform band
in upper jaw, 4 or 5 irregular rows
transversely anteriorly, also single
row of similar short teeth below;
interorbital $2\frac{1}{2}$ to $2\frac{3}{4}$ in head,
low, convex. Gill rakers 0 to 4 + 10
to 15 low spinescent tubercles on
second arch, $\frac{1}{2}$ of gill filaments,
which $2\frac{1}{5}$ in eye.

Scales 175 in lateral line to pseudocaudal; 11 above, 22 below, 55 predorsal forward to snout end. Scales with 7 or 8 slightly convergent apical series of spinules, last extended beyond scale edge; circuli moderate, fine, complete.

D. II, 8 to II, 10 — 100, second simple ray slender, entire, $1\frac{2}{5}$ to $1\frac{9}{10}$ in head; interdorsal space $2\frac{1}{5}$ to 3; A. 100 to 160, fin height $2\frac{3}{4}$ to 3; pectoral rays I, 17, fin $1\frac{2}{5}$ to $1\frac{3}{5}$ in head; ventral fin I, 6, fin $2\frac{1}{5}$.

Largely uniform brown. Some examples with head, also lower surfaces inclusive of breast and belly, silvery gray to dark neutral gray. ~~Fins~~ Iris grayish.

Heutyphus obliquus Waite.

Heutyphus obliquus Waite, Records Austral.
Mus., vol. 6, pt. 2, 1905, p. 65, plate 10.

Houtman's Abrolhos. — McCulloch, Biol.

Res. Endeavour, vol. 4, pt. 4, 1916, p. 188

(between Cape Naturaliste and Geraldton,
West Australia).

D. X, 22; A. III, 18, scales 51 in lateral line.

Readily known by its dark oblique
bands, 6 in number, sloping down from
back and head above posteriorly. Reaches
152 mm.

Western Australia.

Inside mouth dusky to black.
Inside gill opening blackish
brown to black. Fins pale or
brownish.

Western North Atlantic. Most
of the specimens, especially the
small ones, have lost their scales
and many are in very poor
preservation.

350

Genus Heatypus Waite

Heatypus Waite, Records Austral. Mus.,
vol. 6, pt. 2, 1905, p. 64. Type Heatypus
obliquus Waite, monotypic.

Body and head compressed. Mouth small,
transverse, slightly protractile. Maxillary
small. Palate toothless. Scales moderate,
finely ciliated, irregular. Lateral line complete.
Spinous dorsal and anal with broad scaly
bases, also soft vertical fin scaled.

Apparently unique in its dentition.

1234
U. S. N. M., no. 23004. Trondhjem's
Fjord, Norway. Prof. Robert Collett.
Christiana University. December 23,
1878. Length 790 mm.

U. S. N. M., no. 33158.

Length 197 mm.

U. S. N. M., no. 33273. Lat. $39^{\circ}26'16''$
N., long. $70^{\circ}2'37''$ W. In 1362 fathoms.
July 17, 1883. Albatross Collection
(2035). Length 310 mm.

U. S. N. M., no. 33307. Lat. $39^{\circ}41'N$,
long. $69^{\circ}20'20''W$. In 1106 fathoms.
August 1, 1883. Albatross Collection
(2051). Length 188 to 290 mm. 5 examples.

U. S. N. M., no. 33314. Lat. $39^{\circ}40'5''N$,
long. $69^{\circ}21'25''W$. In 1098 fathoms. August
1, 1883. Albatross Collection (2052).

Length 230 to 268 mm. 5 examples.

19286. Rohonga Calle dini.
Length 47 mm.

5037. Vitambi wharf. February 27,
1908. Length 180 mm.

(D. 5561). Ternabal Island. September
19, 1909. Length 16 mm.

6003. Zamboanga market. May 27, 1908.
Length 145 mm.

4342 (tin tag). Length 145 mm. (Station
5066.)

1235

U. S. N. M., no. 33315. Lat. $39^{\circ}41'N.$,
long. $69^{\circ}20'20''W.$ In 1106 fathoms.
Albatross Collection (2051). August
1, 1883. Length 200 to 247 mm.
*⁶ examples.

U. S. N. M., no. 33316. Lat. $39^{\circ}41'$
N., long. $69^{\circ}20'20''W.$ In 1106 fathoms.
August 1, 1883. Albatross Collection
(2051). Length 215 to 295 mm.
7 examples.

U. S. N. M., no. 33367. Lat. $41^{\circ}9'40''$
N., long. $66^{\circ}2'20''W.$ In 1255 fathoms.
September 4, 1883. Albatross Collection
(2077). Length 120 to 227 mm. *⁹ examples.

U. S. N. M., no. 33376. Lat. $41^{\circ}53'N.$,
long. $65^{\circ}35'W.$ In 858 fathoms.
September 2, 1883. Albatross
Collection (2072). Length 115 to 175
mm. 2 examples.

86

Chaetodon daakhar Bonnaterre, Tabl. Ichth.,
1788, p. 81, plate 95 and 389. Red Sea.

Chaetodon arthriticus Bell, Philos. Trans.
London, 1793, p. 8, plate 6. Sumatra.

Platax arthriticus Cuvier, Hist. Nat. Poiss.,
vol. 7, 1831, p. 227 (Java). — Cantor, Journ.
Asiat. Soc. Bengal (Cat. Malay. Fish.), vol.
18, series 2, 1849, p. 1151 (Pinang, Singapore). —
Günther, Cat. Fish. Brit. Mus., vol. 2, 1860,
p. 491 (Ambon, Pinang). — Sauvage,
Hist. Nat. Madagascar, Poiss., 1891, p. 277.

Platax leschenaldi Cuvier, l.c., p. 168.

New Guinea, Pondichery.

Platax leschenaulti Sauvage, l.c., p. 282.

Platax batavianus Cuvier, l.c., p. 169. Batavia.

— Kner, Reise Novara, Fisch., pt. 2, 1865, p.
165 (Singapore). — Bleeker, Atlas Ichth.,
vol. 9, 1877, p. 76, plate 381 (19), figs. 1-2
(Sumatra, Nias, Pinang, Singapore, Bintang,
Bangka, Biliton, Jawa, Duzend Islands, Celebes,

U. S. N. M., No. 33395. Lat. $41^{\circ}43'$
N., long. $65^{\circ}21'50''$ W. In 1309 fathoms.
September 3, 1883. Albatross
Collection (2074). Length 215 mm.

U. S. N. M., No. 33437. Lat. $40^{\circ}16'$
 $50''$ N., long. $67^{\circ}5'15''$ W. In 1290
fathoms. September 5, 1883.
Albatross Collection (2084). Length
310 mm.

U. S. N. M., No. 33518. Lat. $39^{\circ}39'$
 $45''$ N., long. $71^{\circ}35'15''$ W. In 538
fathoms. August 19, 1884. Albatross
Collection (2201). Length 285 mm.

U. S. N. M., No. 33566. Lat. $39^{\circ}22'$
 $20''$ N., long. $70^{\circ}52'20''$ W. In 1451
fathoms. September 30, 1883.
Albatross Collection (2096).
Length 235 mm.

Solor, Ternate, Ambonia, Waigiu). 87

Platax bataviensis Vannoy, Hist. Nat.

Madagascar, Poiss., 1891, p. 278.

Platax punctulatus Cuvier, l.c., p. 171.

Timor.

Platax vespertilio japonicus Schlegel, Fauna

Japonica Poiss., dec. 10-14, 1846, p. 183, plate

43. Nagasaki.

Platax xanthopus Bleeker, Nat. Tijds. Ned.

Indië, deel 1, 1850, p. 105. Batavia.

Platax gampret Bleeker, l.c., Batavia, Sumatra.

Platax boersii Bleeker, l.c., deel 3, 1852, p. 758.

Macassar.

Chaetodon setosus Gray, Cat. Fish. Grenow,
vol. 2, 1854, p. 76. "American Ocean."

Platax anagou Thiollière, Faun. Woodlark,
1857, p. 170. Woodlark Island.

Platax melanoxoma Bleeker, Act. Soc. Sci.

Ind. Néerl. (Ambonia), vol. 8, 1860, p. 10.

Ambonia. — Bleeker, Atlas Ichth., vol. 7,

1877-78, p. 75, plate (18) 380, fig. 4 (type; young).

1237

U. S. N. M., No. 33583. Lat. $39^{\circ}29'$
N., long. $70^{\circ}58'40''$ W. In 1342 fathoms.
1883. Albatross Collection
(2095). Length 305 to 310 mm.
2 examples.

U. S. N. M., No. 35413. Lat. $39^{\circ}29'$
 $30''$ N., long. $71^{\circ}44'$ W. In 861 fathoms.
July 23, 1884. Albatross Collection
(2182). Length 145 mm.

U. S. N. M., No. 35470. Lat. $40^{\circ}00'$
 $45''$ N., long. $70^{\circ}54'15''$ W. In 129 fathoms.
August 2, 1884. Albatross Collection
(2185). Length 220 mm.

U. S. N. M., No. 35480. Lat. 39°
 $35'$ N., long. $69^{\circ}44'$ W. In 1230 fathoms.
August 6, 1884. Albatross Collection
(2196). Length 130 to 254 mm.
2 examples.

88

Platax marginatus (Van Hasselt) Bleeker,
Atlas Ichth., vol. 9, 1877, p. 76 (name in
synonymy).

Platax fasciatus (Kuhl and Van Hasselt) Bleeker,
l.c. (name in synonymy).

Platax orbicularis (non Forkal) Gordon
and Seale, Bull. Bur. Fisher., vol. 25,
1905 (1906), p. 335 (Yamou). — Kendall
and Goldborough, Mem. Mus. Comp. Zool.,
vol. 36, no. 7, 1911, p. 306 (Bora Bora).

1238

U. S. N. W., no. 35516. Lat. $39^{\circ}40'05''$
N., long. $69^{\circ}21'25''$ W. In 1098 fathoms.
August 1, 1883. Albatross Collection
(2052). Length 225? to 270 mm. 5 examples.

U. S. N. W., no. 35532. Lat. $39^{\circ}33'N$,
long. $71^{\circ}16'15''$ W. In 1778 fathoms.
August 21, 1884. Albatross Collection
(2208). Length 338 mm.

U. S. N. W., no. 38154. Lat. $36^{\circ}45'N$,
long. $74^{\circ}28'30''$ W. In 781 fathoms.
October 25, 1886. Albatross Collection
(2731). Length 205 mm.

U. S. N. W., no. 38158. No locality.
October 25, 1886. Albatross Collection.
Length 238 to 257 mm. 2 examples.

U. S. N. W., no. 38165. Lat. $36^{\circ}35'N$,
long. $74^{\circ}3'30''$ W. In 1239 fathoms.
October 24, 1886. Albatross Collection
(2727). Length 180? to 310 mm. 4 examples.

— Day, Fishes of Malabar, 1865, p. 35. —

Day, Fishes of India, pt. 1, 1875, p. 115, plate

29, fig. 4. — von Martens, Preuss. Exped. Ost

Asien, 1876, p. 388 (Bangkok, Siam). —

Bleeker, Atlas Ichth., vol. 9, 1877, p. 20,

plate (3) 365, fig. 5 (Sumatra, Pinang,

Singapore, Banca, Java). — Károli, Termész.

Füzetek Budapest, vol. 5, 1881, p. 156

(Singapore). — Day, Fauna British India,

vol. 2, 1889, p. 20, fig. 7. — Pellegrin, Bull.

Soc. Zool. France, tome 30, 1905, p. 84 (Baie

d'Along, Tonkin). — Seale, Philippine Journ.

Sci., vol. 5 (4), 1910, p. 282 (Sandakan, Borneo).

— Johnstone, Rep. Pearl Fisher. Ceylon, vol. 2,

1914, p. 220 (off Ceylon).

Starcher orbis Cantor, Journ. Asiatic Soc. Bengal

(Cat. Malay. Fish.), vol. 1, pt. 1, 1849, p. 1142

(Pinang, Malay Peninsula, Singapore). —

Jordan and Evermann, Proc. U. S. Nat. Mus., vol.

25, 1903, p. 356 (Formosa).

1239

U. S. N. M., No. 39241. Lat. $37^{\circ}46'30''$
N., long. $73^{\circ}56'30''$ W. In 865 fathoms.
September 17, 1887. Albatross
Collection (2742). Length 140 to 175 mm.
2 examples.

U. S. N. M., No. 39256. Lat. $37^{\circ}46'30''$
N., long. $73^{\circ}56'30''$ W. In 865 fathoms.
September 17, 1887. Albatross
Collection (2742). Length 70 to 120 mm.
5 examples.

U. S. N. M., No. 44619. Lat. $41^{\circ}3'30''$ N.,
long. $66^{\circ}14'$ W. In 662 fathoms. July 14,
1885. Albatross Collection (2529).
Length 110 to 218 mm. 2 examples.

U. S. N. M., No. 45782. Lat. $39^{\circ}35'$ N.,
long. $71^{\circ}2'30''$ W. July 17, 1885.
Albatross Collection (2685). Length
260 ~~to~~ ^{to} 283 mm. 2 examples.

Ephippus orbis (Block).

Chaetodon orbis Block, Naturg. Insel.

Fisch., vol. 3, 1787, p. 81, plate 202, fig. 2.

East Indies. — Gmelin, Syst. Nat. Linn.,

1789, p. 1244 (India). — Walbaum, Arted.

Pisc., vol. 3, 1792, p. 410 (on Block). —

Forster, Faun. Indica, 1795, p. 15. —

Schneider, Syst. Ichth. Block, 1801, p.

232 (Tranguebar). — Lacépède, Hist. Nat.

Poiss., vol. 4, 1802, pp. 458, 459 (East
Indies).

○ Chetodon orbis Bonnaterre, Tabl. Ichth.,

1788, p. 84, plate 95, fig. 390 (East Indies).

Ephippus orbis ^{Cuvier} ~~Balancer~~, Hist. Nat.

Poiss., vol. 7, 1831, p. 96 (Pondichery, Malabar,
East Indies). — Guerin, Regne Animal

Cuvier, vol. 1, 1829, p. 44, plate 22, fig. 2;

vol. 3, Poiss., p. 18 (Tranguebar, Malabar,
East Indies).

Richardson, Ichth. China Jap., 1846, p. 245

(China). — Günther, Cat. Fish. Brit. Mus.,

vol. 2, 1860, p. 62 (Sumatra and Ceylon). —

U. S. N. W., No. 45783. Lat. $40^{\circ}16'30''N$,
 long. $67^{\circ}26'15''W$. July 15, 1885.

Albatross Collection (2533). Length
 87 to 158 mm. 9 examples.

U. S. N. W., No. 45784. Lat. $39^{\circ}44'30''N$,
 long. $70^{\circ}30'45''W$. August 9,
 1885. Albatross Collection (2550).

Length 119 to 235 mm. 15 examples.

U. S. N. W., No. 45785. Lat. $39^{\circ}15'30''N$,
 long. $71^{\circ}25'W$. August 11,
 1885. Albatross Collection (2562).

Length 265 mm.

U. S. N. W., No. 45786. Lat. $38^{\circ}44'N$,
 long. $72^{\circ}38'W$. November 5, 1883.
Albatross Collection (2102). Length 115 to
 255 mm. 6 examples.

U. S. N. W., No. 45787. Lat. $40^{\circ}16'30''N$,
 long. $67^{\circ}26'15''W$. July 17, 1885.
Albatross Collection (2533). Length 73 to
 117 mm. 2 examples.

Genus Ephippus Cuvier.

Ephippus Cuvier, Règne Animal., vol. 2,
1817, p. 335. Type Chaetodon orbis
Bloch, designated by Jordan and
Evermann, Genera of Fishes, pt. 1, 1917, p.
105.

Larches Cantor, Journ. Asiatic Soc. Bengal
(Cat. Malay. Fishes), vol. 18, ^{part 1,} 1849 (~~1850~~),
p. 1142. Type Chaetodon orbis Bloch
(virtually, as Larches Cantor proposed to
replace Ephippus Cuvier).

differs from Drepane chiefly in the
third to fifth dorsal spine elongated,
filiform terminally, especially third.
It also differs in the short pectoral,
which shorter than the head, while
in Drepane the long pectoral is twice
as long as the head and nearly reaches
the caudal base.

U. S. N. M., No. 45788. Lat. $40^{\circ}53'30''$

N., long. $66^{\circ}24'W$. July 14, 1885.

Albatross Collection (2530). Length 148 mm.

U. S. N. M., No. 45789. Lat. $38^{\circ}47'20''$

N., long. $72^{\circ}37'W$. November 5, 1883.

Albatross Collection (2103). Length 125 mm.

U. S. N. M., No. 45790. Lat. $35^{\circ}45'23''$

N., long. $74^{\circ}31'25''W$.

November 11, 1883. Albatross Collection (2116). Length 102 to 175 mm. 8 examples.

U. S. N. M., No. 45791. Lat. $39^{\circ}22'N$,

long. $71^{\circ}23'30''W$. August 11, 1885.

Albatross Collection (2564). Length 283 to 353 mm. 2 examples.

U. S. N. M., No. 45792. Lat. $39^{\circ}37'N$,

long. $71^{\circ}8'W$. July 18, 1886.

Albatross Collection (2691). Length 140 to 225 mm. 2 examples.

Analysis of the genera.

a. Ephippinal. Snout about long as eye;
scales large, about 40 or more;
third to fifth dorsal spines prolonged
filamentous; pectoral shorter than
head. Ephippium

aa. Drepaninal. Snout longer than eye;
scales small, about 50 or more in
lateral line; dorsal spines moderate,
not filamentous terminally; pectoral
twice long as head. Drepano
prostrata

U. S. N. M., No. 45793. Lat. $35^{\circ}1'19''$
N., long. $75^{\circ}12'W$.

October 17, 1885. Albatross Collection
(2593). Length 150 to 220 mm. 2 examples.

U. S. N. M., No. 45794. Lat. $41^{\circ}28'30''$
N., long. $65^{\circ}35'30''W$.

August 27, 1886. Albatross Collection
(2706). Length 173 mm.

U. S. N. M., No. 45844. Lat. $32^{\circ}40'$
N., long. $76^{\circ}40'30''W$.

May 6, 1886. Albatross Collection (2678).
Length 270 to 320 mm. 3 examples.

U. S. N. M., No. 74337. Lat. $40^{\circ}34'30''$
N., long. $66^{\circ}48'W$.

July 1885. Albatross Collection (2532).
Length 158 mm.

U. S. N. M., No. 45827. Lat. $40^{\circ}6'N$, long.
 $68^{\circ}1'30''W$. August 28, 1886.

Albatross Collection (2710). Length
138 mm.

bifurcate, not joined to skull. Air vessel large, usually bifurcate in front, with 2 slender horns behind. Pyloric appendages few. Scales moderate or small, ctenoid, densely covering soft parts of vertical fins. Large accessory ventral scale. Lateral line present, concurrent with profile of back. Dorsal spines 7 to 11, depressible in groove. Soft dorsal and anal high in front. Anal spines 3 or 4, short. Caudal truncate or double emcave, with 17 principal rays. Pectorals short, all rays branched. Ventrals thoracic, with spine and 5 rays, sometimes rudimentary.

Shore fishes mostly of large size, living in warm seas and often valued as food. Genera about 5, of which only one confined to the Atlantic.

Coryphaenoides carinatus Günther

Coryphaenoides carinatus Günther, Ann.
Mag. Nat. Hist., ser. 5, vol. 2, p. 28,
1878 (type locality: deep sea near
Prince Edward Island, in 500
fathoms).

Macrurus carinatus Günther, Rep. Voy.
Challenger, vol. 22, p. 137, pl. 33, fig. A,
1887 (type). — Goode and Bean,

Oceanic Ichth., p. 391, 1895 (reference).
— Garman, Mem. Mus. Comp. Zool.,
vol. 24, p. 396, 1899 (reference).

Macrurus (Macrurus) carinatus Brauer,
Deutsch. Tiefsee Exped. Valdivia, vol.
57, p. 388, 1906 (reference).

1244

Coryphaenoides carminatus (Goode and Bean)

Macrurus carminatus (Goode and Bean),
Proc. U. S. Nat. Mus., vol. 3, p. 346, 1880
(type locality: lat. $40^{\circ}2'54''N.$, long. $70^{\circ}23'40''$, in 115 fathoms), p. 475.

Macrurus (Coelorhynchus) carminatus
Brauer, Deutsch. Tiefsee Exped. Valdivia,
vol. 15, p. 388, 1906 (reference).

Coelorhynchus carminatus Goode and Bean,
Oceanic Ichth., p. 398, pl. , fig. 336,
1895.

— Jordan and Evermann, Bull. U. S. Nat.
Mus., no. 47, pt. 3, p. 2588, 1898 (compiled).
— Garman, Mem. Mus. Comp. Zool., vol.
24, p. 397, 1899 (reference). — Jordan,
Evermann, Clark, Rep. U. S. Comm. Fisher,
pt. 2, p. 207, 1930 (reference).

1245

Coryphaenoides carminatus Gilbert
and Hubbs, Proc. U. S. Nat. Mus.,
vol. 51, p. 144, 1906 (reference).

Depth $6\frac{3}{5}$ to $8\frac{1}{2}$; head $4\frac{2}{3}$ to 5,
width $1\frac{9}{10}$ to $2\frac{1}{5}$. Snout to eye
 $2\frac{1}{2}$ to $2\frac{7}{8}$ in head; eye 4 to $4\frac{1}{4}$,
 $1\frac{1}{4}$ to $1\frac{3}{4}$ in snout, 1 in interorbital;
orbit 3 to $3\frac{1}{4}$ in head, 1 to $1\frac{1}{8}$ in
snout, greatly exceeds interorbital;
maxillary reaches $\frac{1}{2}$ in eye, length
from front end $3\frac{2}{3}$ to 4 in head;
mandibular barbel $2\frac{1}{2}$ to 3 in
eye; teeth in villiform bands in
jaws, 6 or 8 irregular transverse
series; interorbital $4\frac{1}{5}$ to $4\frac{1}{2}$, low,
nearly level forward. Gill rakers
0 + 8, low spiniferous tubercles on
second arch, $\frac{1}{3}$ of gill filaments,
which $\frac{1}{3}$ of eye.

Scales 118 in lateral line; 5 above,
10 below, 10 predorsal forward to
occiput, which about first fourth

between hind edge of orbit and first dorsal origin. Scales with 12 or 13 nearly parallel rows of rather long, slender spinules apically, with last extended but slightly behind scale edge; circuli fine, more or less obsolete apically.

D. II, 9-100, second simple ray pungent, slender, entire, $1\frac{1}{2}$ to $1\frac{3}{5}$ in head; interdorsal space $1\frac{7}{8}$ to $2\frac{3}{5}$; A. 100, fin height 4 to $4\frac{2}{5}$; pectoral rays I, 15, fin $1\frac{7}{8}$ in head; ventral rays I, 6, fin $1\frac{7}{8}$ to $2\frac{3}{4}$.

Largely uniform brown, under surface of head slightly paler. Iris pale to whitish. Inside mouth pale. Inside gill opening

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Family Ephippidae.

Body deep, usually greatly elevated, compressed. Caudal peduncle short. Head deep, front profile steep. Mouth small, terminal, horizontal. Premaxillaries protractile. Maxillary partly slips under narrow preorbital. No supplemental maxillary. Jaws with bands of slender, pointed, movable, brush-like teeth. Palate toothless. Nostrils double. Preopercle very finely serrated or entire. Gill membrane broadly united to isthmus, openings lateral. Gill rakers very short. Pseudobranchiae present. Branchiostegals 6 or 7. Subocular shelf wide or feeble. Occipital crest elevated. No parietal crests. Vertebrae 24, of which 14 caudal, precaudals with parapophyses from fourth. Ribs, except last 2 pairs, sessile. Post-temporal

blackish, though edges of gill
opening not dark. Fins brown,
first dorsal with 2 dusky
blotches, - one subbasal and other
near apex.

Western North Atlantic.

109
56011 U.S.N.M. Jolo, Philippines.

Bureau of Fisheries. Length 165 mm. [4158]

57930 U.S.N.M. Zamboanga, Philippines.

Dr. E. A. Mearns. Length 48 mm.

72168 U.S.N.M. Cagayancillo, Philippines.

R. C. Mc Gregor. Length 34 mm.

84208 U.S.N.M. Philippines. Dr. F.

Baker. Length 118 mm.

84262 U.S.N.M. Zamboanga.

Dr. F. Baker. Length 128 mm. in Platy-
teira.

U. S. N. M., No. 26001. Lat. $40^{\circ} 2' 36''$
N, long. $70^{\circ} 22' 58''$ W. In 115 fathoms.
September 4, 1880. U. S. Fish Comm.
(870). Length 243 to 248 mm. 2 examples.

U. S. N. M., No. 26188. Off Newport,
Rhode Island. In 238 fathoms.
October 2, 1880. Fish Hawk ~~Stat~~ ^{Collection}
(895). Length 256 mm.

U. S. N. M., No. 26189. Off Newport,
Rhode Island. In 372 fathoms.
October 2, 1880. Fish Hawk Collection
(893). Length 215 to 250 mm. 2 examples.

U. S. N. M., No. 26197. Off Newport.
In 238 fathoms. October 2, 1880.
Fish Hawk Collection (895). Length 280 to
303 mm. 2 examples.

U. S. N. M., No. 26735. Lat. $37^{\circ} 24' N$,
long. $74^{\circ} 17' W$. In 300 fathoms. November
16, 1880. Fish Hawk Collection (898).
Length ⁷⁰98 to 170 mm. 1 ³2 examples.

double concave; pectoral $1\frac{3}{5}$ to $1\frac{3}{4}$; ventral 1.

Pale brown, sides and below with pale leaden silvery tinge. Fins all pale. Iris pale.

India, Andamans, Ceylon, East Indies, Formosa. According to Day it reaches 155 mm. He describes the back and head grayish green, sides and abdomen silvery shot with pink. Fin membranes diaphanous finely dotted with black, especially terminally and rays bluish white. He also notes the young have a dark gray orbital band, another over the nape, 2 over the body and fins edged gray. We have received but few specimens 5127, and 17909. Sandakan market, Borneo. March 4, 1908. Length 120 to 125 mm.

1249

U.S. N. M., No. 28753. Lat. $39^{\circ}53'$
N., long. $69^{\circ}50'30''$ W. In 258 fathoms.
August 4, 1881. U.S. Fish Comm. (939).
Length 119 to 185 mm. 3 examples.

U.S. N. M., No. 28891. Lat. $39^{\circ}50'30''$
N., long. $71^{\circ}23'$ W. September 8,
1881. U.S. Fish Comm. (1026). Length
189 to 260 mm. 4 examples.

U.S. N. M., No. 28958. Lat. $39^{\circ}56'$ N,
long. $69^{\circ}22'$ W. September 14,
1881. U.S. Fish Comm. (1032). Length
142 to ⁴⁰~~227~~ mm. 8 examples.

U.S. N. M., No. 29048. Lat. $38^{\circ}35'$ N,
long. $73^{\circ}13'$ W. In 312 fathoms;
October 10, 1881. Fish Hawk Collection
(1045). Length 283 mm.

Genus Drepane ^{Cuvier.} ~~Bleeker~~

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Drepane ^{Cuvier} ~~Bleeker~~, Hist. Nat. Poiss.,
vol. 7, 1831, p. 99. Type Chaetodon
punctatus Linnaeus, designated by
Jordan and Evermann, Genera of Fishes,
pt. 1, 1917, p. 136.

~~Drepanichthys (as Chaetodon) Cuvier~~

Drepanichthys Bonaparte, Poiss., 1838, p.
1207. Type Chaetodon punctatus Linnaeus
(virtually as Drepanichthys Bonaparte
proposed to replace Drepanis Cuvier).

Enix Gistel, Nature. Theor., 1848, p. 1x.
Type Chaetodon punctatus Linnaeus (virtually
as Enix Gistel proposed to replace
Drepane ^{Cuvier} ~~Bleeker~~).

1250

U. S. N. M., No. 29054. Lat. $38^{\circ}33'$
N., long. $73^{\circ}18'W$. In 104 fathoms.
October 10, 1881. Fish Hawk Collection
(1046). Length ^{195 to} 230 mm. 2 examples.

U. S. N. M., No. 31600. Lat. $39^{\circ}54'$
N., long. $69^{\circ}44'W$.

U. S. Fish Comm.

Length 250 mm.

U. S. N. M., No. 31645. Lat. $39^{\circ}57'$
N., long. $70^{\circ}37'W$. In 192 fathoms.
August 18, 1882. U. S. Fish Comm. (1113).
Length 165 mm.

U. S. N. M., No. 31775. Lat. $39^{\circ}39'N$,
long. $71^{\circ}54'W$. In 168 fathoms. September
8, 1892. U. S. Fish Comm. (1138).
Length 179 mm.

U. S. N. M., No. 31868. Lat. $39^{\circ}58'N$,
long. $70^{\circ}35'W$. In 115 fathoms. October 4,
1882. U. S. Fish Comm. (1152).

Length 203 ~~mm~~ mm.

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Depth $1\frac{1}{4}$; head $3\frac{1}{6}$ to $3\frac{1}{5}$, width $1\frac{3}{4}$. Snout $2\frac{1}{2}$ to $2\frac{7}{8}$ in head; eye $2\frac{3}{5}$ to $2\frac{4}{5}$, equals snout, slightly greater or equal to interorbital; maxillary not quite reaching opposite front of eye, $3\frac{3}{4}$ in head; interorbital $2\frac{4}{5}$ to $2\frac{7}{8}$, broadly convex. Gill rakers $2+8$, short points, about $\frac{1}{8}$ of gill filaments, which $1\frac{1}{2}$ in eye.

Scales 37 or 38 in lateral line to caudal base; 7 scales above lateral line, 16 below. Cheeks with 4 or 5 rows of scales to preopercle ridge. Scales with 5 to 11 basal radiating striae, apically 6 or 7 parallel submarginal striae, but not spinose, though irregularly segmented; circuli fine.

D. VIII, 19, I, second spine 2 to $2\frac{1}{5}$ in combined head and body, third ray $1\frac{1}{8}$ to $1\frac{1}{3}$ ^{in head}; A. III, 15, I, third spine $3\frac{1}{8}$, second ray $1\frac{2}{5}$ to $1\frac{3}{5}$; least depth of caudal peduncle $2\frac{1}{8}$ to $2\frac{1}{5}$; caudal 1 to $1\frac{1}{5}$, hind edge slightly

1251

U. S. N. M., No. 32807. Lat. $36^{\circ}41'5''$
N., long. $74^{\circ}38'55''$ W.

May 1, 1883. Albatross Collection (2014).
Length 260 mm.

U. S. N. M., No. 33512. Lat. $39^{\circ}58'$
 $35''$ N., long. $71^{\circ}00'30''$ W. In 197 fathoms.
September 21, 1883. Albatross Collection
(2092). Length 148 to 202 mm. 3 examples.

U. S. N. M., No. 33543. Lat. $39^{\circ}58'$
 $50''$ N., long. $70^{\circ}39'40''$ W. In 168 fathoms.
September 20, 1883. Albatross Collection
(2089). Length 144 to 168 mm. 3 examples.

U. S. N. M., No. 35476. Lat. $39^{\circ}57'45''$
N., long. $70^{\circ}56'30''$ W. In 195 fathoms.
August 2, 1884. Albatross Collection
(2183). Length 188 to 197 mm. 2 examples.

120

Harporhynchus Cantor, Journ. Asiat. Soc.
Bengal (Cat. Malay. Fish.), vol. 18, pt. 1,
1847 ~~1848~~, p. 1144. Type Chaetodon
finnetatus Linnaeus, monotypic.

Cryptosmilia Cope, Trans. Amer. Philos.
Soc., vol. 13, ^{series 2,} 1866 (1869), p. 401. Type
Cryptosmilia luna Cope, monotypic.

Body greatly elevated and compressed.
Snout short. Palate edentulous. Preopercle
spineless. Pseudobranchiae present.
Branchiostegals 6. Gyloric appendages
few. Scales moderate. Antorse,
concealed predorsal spine, other spines
8 or 9, like 3 of anal, depressible in
basal groove. Pectoral long, falcate.

1252

U. S. N. M., No. 35478. Lat. $39^{\circ}53'$
 $30''$ N., long. $69^{\circ}43'20''$ W. In 148
fathoms. August 6, 1884. Albatross
Collection (2200). Length 302 mm.

U. S. N. M., No. 35686. Lat. $39^{\circ}54'$
 $45''$ N., long. $69^{\circ}29'45''$ W. In 250 fathoms.
September 28, 1884. Albatross Collection
(2262). Length 268 to 312 mm. 2 examples.

U. S. N. M., No. 43625. Lat. $28^{\circ}45'$ N.,
long. $86^{\circ}26'$ W. In fathoms. March
14, 1885. Albatross Collection (2398).
Length 230 to 303 mm. 2 examples.

U. S. N. M., No. 45686. Lat. $39^{\circ}56'$ N.,
long. $70^{\circ}14'30''$ W.
August 8, 1880. Albatross Collection
(2548). Length 182 to 300 mm.
6 examples.

122

Drepane punctata (Linnaeus).

Chaetodon punctatus Linnaeus, Syst. Nat.,
ed. 10, 1758, p. 273. Asia. — Linnaeus,
l.c., Ed. 12, 1766, p. 461. — Gmelin,
Syst. Nat. Linn., 1789, p. 1243. — Walbaum,
Arted. Pisc., vol. 3, 1792, p. 443 (on
Linnaeus). — Schneider, Syst. Ichth. Bloch,
1801, p. 231 (copied).

Drepane punctata ^{Cuvier} ~~Gmelin~~, Hist. Nat. Poiss.,
vol. 7, 1831, p. 99, plate 179 (Malabar, Java,
New Guinea, China, Australia, Canton,
Endeavour Strait). — Richardson, Ichth.
China Jap., 1846, p. 244 (China). — Günther,
Cat. Fish. Brit. Mus., vol. 2, 1860, p. 62
(Ceylon and Java). — Day, Fishes of Malabar,
1865, p. 36. — Kner, Rein. Novara Fische, 1867,
p. 107 (Ceylon and Java). — Peters, Monatsh.
Abad. Wiss. Berlin, 1868, p. 257 (Singapore).
— Schmeltz, Mus. Godeffroy Cat., vol. 4, 1869,
p. 15 (East Indies, Fort Mackay, Rockhampton).

1253

U. S. N. W., no. 45688. Lat. $28^{\circ}42'$
N., long. $86^{\circ}36'$ W.

March 14, 1880. Albatross Collection
(2397). Length 265 mm.

U. S. N. W., no. 45696. Lat. $36^{\circ}41'37''$
N., long. $74^{\circ}42'15''$ W.

June 4, 1885. Albatross Collection
(2424). Length 82 to 158 mm. 6 examples.

U. S. N. W., no. 45697. Lat. $39^{\circ}56'$ N.,
long. $70^{\circ}14'30''$ W.

August 8, 1885. Albatross Collection
(2548). Length 158 to 334 mm. 7 examples.

U. S. N. W., no. 45701. Lat. $36^{\circ}1'30''$ N.,
long. $74^{\circ}47'30''$ W.

June 4, 1885. Albatross Collection (2426).
Length 173 to 210 mm. 5 examples.

U. S. N. W., no. 74321. Lat. $39^{\circ}50'$ N.,
long. $71^{\circ}43'$ W. September

1885. Albatross Collection (2582).
Length 86 to 190 mm. 2 examples.

Chaetodon longimanus Schneider, Syst. Ichth.
Bloch, 1801, p. 229. Tranquebar.

Drepane longimana ^{Cuvier} ~~Schneider~~, Hist. nat.

Poiss., 7, 1831, p. 101 (Pondichery, Mahe,
Java). — Richardson, Ichth. China Jap.,
 1846, p. 245- (Canton). — Peters, Arch. Naturg.,
 1855, p. 290 (Daman, Malabar).

Harporhynchus longimanus Cantor, Journ. Asiat.
Soc. Bengal (Nat. Malay. Fish.), vol. 18, part 1,
 1849 (~~1850~~), p. 1145 (Pinang, Malay Peninsula,
Singapore). — Fowler, Journ. Acad. Nat. Sci.
Phil., vol. 12, series 2, 1904, p. 544, Pl. 23

upper figure (Padang). — Fowler and Bean, Proc.
U. S. Nat. Mus., vol. 62, p. 22, p. 54 (Padang).

Chaetodon falcatus Lacépède, Hist. nat. Poiss.,
 vol. 4, 1802, pp. 452, 471. Nisia.

Ephippus terla Cuvier, Règne Animal, vol. 2,
 Ed. 2, 1829, p. 191 (on Chaetodon terla Russell,
Fishes of Coromandel, vol. 1, 1803, p. 64, fig.

81. Vizagapatam and Madras).

Drepane punctata var. longimana Pellegrin,
Bull. Soc. Zool. France, tome 39, 1914, p. 227 (Nossi
Bé, Madagascar).

1254

Coryphaenoides carminifer (Garman)

Macrurus carminifer Garman, Mem.
Mus. Comp. Zool., vol. 24, p. 204 (397),
pl. 46, fig. 2 (type locality: lat. $7^{\circ}15'$
N., long. $79^{\circ}36'$ W., 1020 fathoms;
Gulf of Panama; 322 to 730 fathoms).

Macrurus (Macrurus) carminifer
Brauer, Deutsch. Tiefsee Expedition,
Valdivia, vol. 15, p. 389, 1906 (reference).

Macrourus carminifer Jordan, Evermann,
Clark, Rep. U. S. Comm. Fisher., pt. 2,
p. 206, 1930 (reference).

Depth $5\frac{4}{5}$; head 5, width $1\frac{3}{4}$.
Snout to eye 3 in head; eye $5\frac{1}{4}$,
 $1\frac{4}{5}$ in snout, $1\frac{2}{5}$ in interorbital;
orbit $3\frac{4}{5}$ in head, $1\frac{1}{8}$ in snout,
1 in interorbital; preoral profile
little inclined from vertical, straight,
length $6\frac{3}{5}$ in head; maxillary reaches
opposite front of eye, length from
front end $3\frac{1}{5}$ in head; mandibular

barbel $1\frac{1}{2}$ in orbit; teeth in fine villiform bands in jaws, 4 to 6 irregular rows transversely; interorbital $3\frac{2}{3}$ in head, low, nearly level or slightly depressed. Gill rakers $1+8$ low spinescent tubercles on second arch, $\frac{1}{2}$ of gill filaments, which $3\frac{1}{2}$ in orbit.

Scales 125 in lateral line; 11 above, 19 below, 46 predorsal of which 25 forward until opposite hind orbital edge. Scales with 12 rows of parallel long apical spinules, last extended well behind scale edge; circuli moderate, complete.

D. II, 9 — ^{simple one} 87, rays broken though second, with row of antrorse denticles along its front edge; interdorsal space 2 in head;

125
(Philippines). — Fowler, Journ. Bombay
Nat. Hist. Soc., vol. 30, no. 2, 1925, p. 321
(Tuticorin, India). — Fowler, Proc. Acad.
Nat. Sci. Phila., 1925, p. 251 (Delagoa Bay
and Natal). — Fowler, Journ. Bombay Nat.
Hist. Soc., Nov. 1926, p. 11 (Bombay).

Drepane punctatus Lilleyne and Macleay,
Proc. Linn. Soc. New South Wales, vol. 1, 1876,
p. 277 (Cape York).

Harporhynchus punctatus Cantor, Journ. Asiatic
Soc. Bengal (Cat. Malay. Fish.), vol. 18, part 1,
1849, p. 1144 (Pinang, Malay Peninsula, Singapore).
(— Bleeker, Nat. Tijds. Nederl., deel 2, 1865, p.
173 (Siam). — Bleeker, Atlas. Ichth., vol.
9, 1877, p. 19, plate (3) 365, fig. 4 (Sumatra,
Nias, Pinang, Singapore, Bintang, Banka,
Java, Madura, Bali, Borneo, Celebes,
Halmahera, Batjan, Buru, Amboina,
Waigiu, New-Guinea, Philippines).

A. 83, fin height $5\frac{1}{4}$; pectoral rays I, 20, fin (broken) $2\frac{1}{5}$? in head; ventral rays I, 7, fin $1\frac{4}{5}$.

Uniform dark or dusky brown. Iris pale gray. Inside mouth pale. Inside gill opening blackish brown. Under side of head, breast and belly not dark.

Gulf of Panama. An interesting species, quite uniform brown and without dark or black tints under head and trunk. Although Garman describes the denticles along the front edge of the second simple dorsal ray, they are not shown on his figure.

124

26, 1906 (1907), p. 33 (Cavite). — Steindachner,
Denks. Akad. Wiss. Wien, band 71, abth. 1907,
p. 139 (Gischn, southern Arabia). — Jordan
and Richardson, Bull. Bur. Fisher., vol. 27,
1907 (1908), p. 268 (Manila and Lubang). —
Regan, Ann. Durban Mus., 1908, p. 246 (Durban
Bay). — Gilchrist and Thompson, Ann. South
Afr. Mus., vol. 6, pt. 2, 1908, p. 162 (Natal).
— Seale, Philippine Journ. Sci., vol. 5, no. 4, 1910,
p. 282 (Sandakan, North Borneo). — Weber,
Siboga Exped., band 65, 1913, p. 314 (Macassar).
— Zugmayer, Abhandl. K. Bayer. Akad. Wiss.,
band 26, abth. 6, 1913, p. 11 (Mekran and Oman).
— Pellegrin, Bull. Soc. Zool. France, tome 39,
1914, p. 227 (Fort Dauphin, Madagascar). —
Ogilby, Commenc. Fish. Queensland, 1915, p.
(Edgecumbe Bay). — McCulloch, Biol. Res.
Endeavour, vol. 4, pt. 1, October 31, 1916, p. 190
(off Bowen, Queensland, in 16 fathoms). —
Fowler, Copeia, no. 58, June 18, 1918, p. 64

1257
U. S. N. M., No. 57860. Lat. $7^{\circ}6'$
 $15''$ N., long. $80^{\circ}34'$ W. In 695
fathoms.

Albatross Collection (3353).

Length 287 to end of broken tail.

- Günther, Journ. Mus. Godeffroy, band 2-3
left 5-6, 1874, p. 55 (copied). — Day, Fishes
of India, pt. 1, 1875, p. 116, plate 29, fig. 5.
— Von Martens, Preuss. Ex. Ost Asien, 1876,
p. 388 (Singapore and Batjan). — Klunzinger,
Sitzb. ^{ber} Akad. Wiss. Wien, band 80, heft 1, 1879, p.
363 (^{Port Philip,} Endeavour River, ^{Cleveland Bay and Port Darwin,} Queensland). — Károli,
Termesz. Füzetek Budapest, vol. 5, 1881, p. 156
(Sarungorn, Canton, Palaborn). — Meyer,
Ann. Soc. Espan. Hist. Nat. Madrid, vol. 14,
1885, p. 18 (Manado, Celebes). — Boulenger,
Proc. Zool. Soc. London, 1887, p. 657 (Muscat).
— Day, Faun. British India, ^{vol.} 2, 1889, p. 21, fig. 8.
— Kent, Great Barrier Reef, 1893, p. 284 (367), plate 44, fig. 3 (Port
— Clera, Cat. Fauna Filip., vol. 1, 1895, p. 490
(Luzon, Manila Bay, Mindoro). — Duncker,
Mitteil. Nat. Mus. Hamburg, band 21, 1903
(1904), p. 152 (Kuala Klang, Kuala Lumpur).
— Regan, Journ. Bombay Nat. Hist. Soc.,
vol. 16, pt. 2, 1905, p. 330 (Persian Gulf).
— Jordan and Seale, Bull. Bur. Fisher., vol.

Described from Queensland

1258

Coryphaenoides caudani (Köhler)

Macrurus caudani Köhler, Ann.
Univ. Lyon, vol. 26, p. 500, pl. 26, fig.
3, pl. 27, fig. 9 (scale), 1896 (type
locality: lat. $45^{\circ}57'N.$, long. $6^{\circ}21'W.$,
1410 meters, Gulf of Gascony).

Macrurus (Macrurus) caudani Brauer,
Deutsch. Tiefsee Exped. Valdivia,
vol. 15, p. 389, 1906 (reference).

1259

Coryphaenoides cetoneuropsis (Gilbert
and Hubbs)

Lionurus cetoneuropsis Gilbert and Hubbs,
Proc. U. S. Nat. Mus., vol. 51, p. (146)
202, ~~1916~~. pl. 11, fig. 1, 1916 (type locality:
off East coast of Honduras, 918 fathoms).

Coryphaenoides cinereus (Gilbert)

macrurus cinereus Gilbert, Rep. U.S. Fish Comm., pt. 19, p. 457, 1893 (1895)
(type locality: north of Unalaska, 399 to 1033 fathoms, south of Adlamok Island, 695 fathoms).

— Jordan and Evermann, Bull. U.S. Nat. Mus., no. 47, vol. 3, p. 2586, 1898
(Bogorlof Island, 664 fathoms).

— Garman, Mem. Mus. Comp. Zool., vol. 24, p. 396, 1899 (reference). —

Jordan and Gilbert, Rep. Fur Seal Investig., vol. 3, p. , 1899
(off Bogorlof Island). — Evermann

and Goldsborough, Bull. Bur. Fisher., vol. 26, p. 350, 1906 (1907) (Bering Sea off Cape Etheridge, 600 fathoms).

— Gilbert and Burke, Bull. Bur. Fisher., vol. 30, p. 92, 1910 (1912)
(Bering Sea, 344 to 741 fathoms).

1261

Macrurus (Macrurus) cinereus Brauer,
Deutsch. Tiefsee Exped. Valdivia,
vol. 15, p. 389, 1906 (reference).

Macrourus cinereus Jordan, Evermann,
Clark, Rep. U. S. Comm. Fisher.,
pt. 2, p. 205, 1930 (reference).

Coryphaenoides cinereus Gilbert and
Hubbs, Proc. U. S. Nat. Mus., vol. 51,
p. (144) 167, 1916 (off south-east
Agkalin Island, 510 fathoms;
Chirikof Island and Shumagin
Island, Alaska).

Depth 7 to $7\frac{1}{5}$; head 5 to $5\frac{2}{3}$, width 2 to $2\frac{1}{10}$. Snout $3\frac{2}{3}$ to $4\frac{1}{4}$ in head; eye $4\frac{1}{2}$, $1\frac{2}{5}$ in snout, $1\frac{1}{5}$ in interorbital; orbit $3\frac{1}{3}$ to $3\frac{2}{5}$ in head, snout $\frac{4}{5}$ to $\frac{7}{8}$ of orbit, orbit 1 to $1\frac{1}{10}$ in interorbital; maxillary reaches $\frac{3}{4}$ to $\frac{4}{5}$ in orbit, length from front end $2\frac{2}{5}$ to $2\frac{3}{4}$ in head; mandibular barbel $3\frac{1}{5}$ to $3\frac{3}{4}$ in eye; teeth uniformly villiform; in bands in jaws of 4 or 5 irregularly transverse, interorbital $3\frac{1}{5}$ to $3\frac{2}{5}$ in head, low and cavernous. Gill rakers $3 + 12$ low spinescent knobs on second arch, $\frac{1}{3}$ of gill filaments, which $\frac{1}{3}$ of eye.

Scales (pockets) 155? in lateral line; 10 above, 22? below, 24 predorsal forward to hind eye

One species, widely distributed
in the Indo-Pacific and along
the shores of West Africa in the Eastern
Atlantic.

74321

~~45701 (11)~~
~~45697 (11)~~
~~45696 (11)~~
~~45688~~
~~45686 (11)~~

43624
43625

31645 31626 31775 31868

20891 (11)

26128 26129 (11)

~~35686 (11)~~

~~35478 (11)~~

~~35476 (11)~~

~~33543 (11)~~

~~33522 (11)~~ 32827

31640 31618

~~29051 (11)~~

~~29048~~

~~28952 (11)~~

~~28753 (11)~~

~~26735 (11)~~

~~26197 (11)~~

~~26001 (11)~~

1263

edge. Scales with 7 slightly radiating series of spinules, last extended well beyond scale edge; circuli fine, complete.

D. II, 10 or II, 11 — 130?, second simple ray with row of small weak spinules along front edge, length $1\frac{1}{8}$ to $1\frac{5}{6}$ in head; interdorsal space $1\frac{3}{4}$ to $2\frac{2}{5}$ in orbit; A. 125?, fin height $4\frac{2}{3}$ in head; pectoral rays I, 15, fin $1\frac{1}{4}$ to 2 in head; ventral rays I, 8, fin $1\frac{2}{3}$ to 2.

Largely uniform dark brown, sides of head and trunk often silvered to whitish. Inside mouth and gill opening blackish. Iris gray. Fins brownish, often with more or less blackish brown.

128

Depth $1\frac{1}{6}$ to $1\frac{1}{5}$; head $2\frac{2}{3}$ to 3, width $1\frac{7}{8}$ to $2\frac{1}{8}$.
Snout $2\frac{1}{5}$ to $2\frac{7}{8}$ in head; eye $2\frac{2}{3}$ to 4, 1 to $1\frac{2}{3}$
in snout, greater than interorbital in young to
equal to interorbital with age; maxillary
reaches opposite front pupil edge, $2\frac{4}{5}$ to 3
in head; interorbital $3\frac{4}{5}$ to 4, broadly convex.
Gill rakers 5 + 10, lanceolate, $\frac{1}{4}$ of gill
filaments, which $1\frac{4}{5}$ in eye.

Tuber 46 to 50 in lateral line to caudal
base; 14 or 15 scales above lateral line, 33 to
35 below. Scales with 5 or 6 basal
radiating striae; circuli fine.

D. VIII or IX, 20, I to 22, I, fourth spine
 $1\frac{2}{5}$ to $1\frac{3}{5}$ in head, seventh ray $1\frac{1}{4}$ to $1\frac{1}{3}$;
A. III, 17, I to 19, I, second spine $2\frac{2}{5}$ to $3\frac{3}{4}$,
second ray $1\frac{1}{4}$ to $1\frac{1}{3}$; least depth of caudal
peduncle $2\frac{1}{3}$ to $2\frac{3}{5}$; caudal broadly
angular behind, median rays longest,
1 to $1\frac{1}{3}$; pectoral $1\frac{2}{5}$ to $1\frac{2}{3}$ in combined
head and body; ventral $2\frac{1}{4}$ to 3.

1264

North Pacific Ocean, Bering Sea.

U. S. N. M., no. 48577. Lat. $55^{\circ}26'N$,
~~Lat.~~ $155^{\circ}26'W$. In 695 fathoms. August
20, 1890. Albatross Collection (3340).
Length 392 to 422 mm. Two examples,
latter or larger evidently type of
Macurus cinereus.

U. S. N. M., no. 48628. Lat. $53^{\circ}55'N$,
long. $170^{\circ}50'W$. In 1033 fathoms.
Albatross Collection
(1063). Length 330 mm.

U. S. N. M., no. 48776. Lat. $54^{\circ}11'30''N$,
long. $167^{\circ}25'W$, Bering Sea.
August 18, 1895.
Length 500 to 545 mm. 5 examples.
{ Albatross Collection (3607).

127
Cryptomilia luna Cope, Trans. Amer.

Philos. Soc., vol. 13, ^{series 2,} 1866 (1867), p. 401.

Cape Palmas, Liberia.

~~Mauritania~~

Drepame punctata var. africana Aurio,

Journ. Sci. Acad. Lisboa, vol. 2, series 2,

1892, p. 207. Rolar Island, West Africa.

Drepame punctata var. retrofasciata

Pellegrin, Act. Soc. Lim. Bordeaux, vol. 60,

1905, p. 51, fig. Mauritania coast.

U. S. N. M., No. 53877.

1265

Albatross Collection (3501). Length
323 to 380 mm. 2 examples, in poor
preservation.

U. S. N. M., No. 60219.

Albatross Collection (3634). ~~Four~~
Length 198 to 514 mm. 4 examples.
U. S. N. M., No. 60790.

July 3, 1903.
Albatross Collection (4267). Length
445? mm.

U. S. N. M., No. 70847.

In 344 fathoms.

Albatross Collection (4772). Length
96 to 395 mm. 5 examples.

Agenor modestus Castelnau, Proc. Linn.

Soc. New South Wales, vol. 3, 1879, pp. 350,

371. Port Jackson. — Macleay, Proc.

Linn. Soc. New South Wales, vol. 5, 1881, p.

368 (Port Jackson). — Gilby, Cat. Fish.

New South Wales, 1886, p. 12. — Baillan,

Bull. Mus. Hist. Nat. Paris, vol. 3, 1897, p.

86 (type).

Scales about 90 along lateral line.

Scales on head and breast moderate.

Dorsal rays 25 to 27, anal 27 to 29.

~~Reached 305 mm.~~

New South Wales, Victoria and
Southern Queensland.

The example, an adult, reported by
Fowler from Victoria is evidently this
species, though has spoiled so as not to be
available for further examination.

1266

U. S. N. M., no. 70849. Lat. $54^{\circ}30'N$,
long. $179^{\circ}17'E$, Bering Sea. In 426
fathoms. June 4, 1906. Albatross
Collection (4771). Length 210 to 376
mm. 4 examples.

U. S. N. M., no. 70908.

In 682 fathoms. June 20, 1906.
Albatross Collection (4797). Length
150 to 268 mm. 2 examples.

U. S. N. M., no. 70916.

Albatross Collection.

Length 110 to 310 mm. 13 examples.

U. S. N. M., no. 70980. Lat. $54^{\circ}12'N$,
long. $179^{\circ}7'30"E$, Bering Sea.
In 771 fathoms. June 3, 1906.
Length 180 to 315 mm. 4 examples.

Linn. Soc. New South Wales, vol. 5, 1881, p.
 397 (Port Jackson). — Ogilby, Cat. Fish. New
 South Wales, 1886, p. 17. — Ogilby, Edible
 Fish. New South Wales, 1893, p. 38, plate 10.
 — Kent, Great Barrier Reef, 1893, p. 369
 (Queensland). — Waite, mem. New South
 Wales Nat. Club, 1904, p. 35. — Stead, Edible
 Fish. New South Wales, 1908, p. 79. — Fowler,
 Proc. Acad. Nat. Sci. Phila., 1923, p. 44
 (Melbourne).

Caesioma aegripinnis Waite, mem. Austral.
 Mus., vol. 4, pt. 1, 1899, p. 84 (Schnapper Rock
 and Young Bueker). — Ogilby, Proc. Roy.
 Soc. Queensland, ^{vol.} 21, 1908, p. 15 (off Moreton
 Bay). — Waite, Records Austral. Mus., vol.
 5, pt. 3, 1904, p. 167 (Lord Howe Island).
Scorpius richardsoni Steindachner, Sitzb.
 Akad. Wiss. Wien, band 53, heft 1, 1866,
 p. 437, plate 5, fig. 1. Port Jackson.

1267

U.S.N.M., No. 70981. Lat. $54^{\circ}20'30''N$,
Long. $179^{\circ}9'30''E$, Bering Sea.
In 764 fathoms. June 3, 1906.
Albatross Collection (4768).
Length 228 to 370 mm. 6 examples.
U.S.N.M., No. 77249.

Albatross Collection (5015).
Length 386 mm.
U.S.N.M., No. 83868.

Albatross Collection (3307).
Length 315? mm. In poor preservation.

43

Genus Parascorpius Bleeker.

Parascorpius Bleeker, Arch. Neerl. Sci.

Nat. Harlem, vol. 10, 1875, p. 380. Type

Parascorpius typus Bleeker, monotypic.

differs from Cityproctus in the presence of an opercular spine and spinous dorsal longer basally than soft dorsal.

Although placed with the Serranidae by Boulenger we have followed Jordan in associating it with the present family.

1268

Coryphaenoides clarki Jordan and Gilbert

Bogoslavius clarki Jordan and Gilbert,
in Jordan and Evermann, Bull. U.S.
Nat. Mus., no. 47, pt. 3, p. 2575,
1898 (type locality: off Bogoslof
Island, Bering Sea, 664 fathoms).

— Evermann and Goldsborough, Bull.
Bur. Fisher., vol. 26, p. 349, pl. 22,
1906 (1907) (name).

Hematomus clarki Jordan and Gilbert,
Rep. Fur Seal Investig., vol. 3, p.
1899 (type). — Gilbert and

Burke, Bull. Bur. Fisher., vol. 30,
p. 93, 1910 (1912) (Bowers Bank in
Bering Sea, 557 to 764 fathoms). —
Gilbert and Hubbs, Proc. U.S. Nat.
Mus., vol. 51, p. 143, 1916 (reference).

Macurus (malacocephalus) clarki
Brauer, Deutsch. ~~W~~ Tiefsee Exped.
Faldivia, vol. 15, p. 391, 1906 (reference).

Depth $7\frac{1}{3}$ to $9\frac{1}{5}$; head $5\frac{1}{4}$ to $5\frac{3}{4}$,
 width $2\frac{1}{8}$ to $2\frac{1}{3}$. Snout to eye $3\frac{4}{5}$
 to $4\frac{1}{5}$ in head; eye $5\frac{1}{4}$ to $5\frac{4}{5}$,
 $1\frac{1}{4}$ to $1\frac{2}{5}$ in snout, $1\frac{1}{3}$ to $1\frac{2}{5}$ in
 interorbital; orbit $4\frac{1}{3}$ to $4\frac{2}{3}$ in
 head, $1\frac{1}{8}$ to $1\frac{1}{5}$ in snout, $1\frac{1}{8}$ to $1\frac{1}{5}$
 in interorbital; maxillary reaches
 $\frac{3}{4}$ to $\frac{4}{5}$ in eye, length from
 front end $2\frac{1}{6}$ to $2\frac{1}{5}$ in head;
 mandibular barbel $4\frac{3}{4}$ to 5
 in orbit; teeth biserial above.
 with outer enlarged well spaced
 series and inner close set row,
 lower uniserial with well spaced
 larger teeth, between which one or
 several small teeth; interorbital
 $4\frac{1}{8}$ to $4\frac{1}{5}$ in head, low and like
 most of top of head cavernous.
 Gill rakers 3 + 13 low + spinescent
 tubercles on second arch, $\frac{1}{2}$ of

Tilodon australis Thomiot.

Tilodon australis (Guichenot) Thomiot,
Bull. Soc. Philomath. Paris, vol. 5, series 7,
1881, p. 140. Australia.

Depth $2\frac{1}{5}$; head 4. Snout moderate,
nearly long as eye, which $3\frac{1}{3}$ in head.
Lower jaw longer. Teeth in jaws filiform,
in crescentic patch on palate. Scales 100,
in lateral line, 21 above, 40 to 45 below.
D. IX, 20; A. III, 18, fin round and
entirely sealed; P. I, 13; V. I, 5. Brown.
Brown circle around eye, descends on
cheek and ends at thorax. Also 5 brown
bands, broad, inclined in same manner.
Band at caudal base. Length 410 mm.
(Thomiot.)

gill filaments, which $\frac{1}{3}$ of orbit.

Scales (pochets) 180? in lateral line; 8 above, ? below, 25?

predorsal forward opposite hind eye edge. Scales with 3 to 5 apical radiating spinuliferous ridges, last spines extending beyond scale edge; circuli moderate, complete.

D. II, 12 — 14?, second simple ray slender, its front edge with antrorse serrae, length $1\frac{1}{3}$ in head; interdorsal space $2\frac{1}{2}$ in orbit; A. 130?, fin height $5\frac{3}{4}$? in head; pectoral rays I, 18, fin $1\frac{1}{3}$ in head; ventral rays I, 9, fin $1\frac{1}{5}$ times head.

Uniform brownish. Iris gray. Inside mouth and gill opening blackish brown. Fins

49

Atypichthys strigatus (Günther).

Atypus strigatus Günther, Cat. Fish. Brit. Mus., vol. 2, 1860, p. 64. Swan River, Goldfast Bay, Australia, Raoul Island. — Macleay, Proc. Linn. Soc. New South Wales, vol. 5, 1881, p. 398 (Port Jackson and Swan River).

Atypichthys strigatus Ogilby, Proc. Roy. Soc. Queensland, vol. 21, 1908, p. 25 (off Cape Moreton). — McCulloch, Biol. Res. Endeavour, vol. 4, pt. 4, 1916, p. 188 (off Vandon Bluff, New South Wales, 35 to 40 fathoms; off Cape Moreton, 49-51 fathoms). — McCulloch, ^{Queensland,}

Australian Zool., vol. 2, pt. 3, 1922, p. 90, plate 26, fig. 228a (New South Wales).

Readily known by the presence of 5 or 6 dark longitudinal bands, especially on the back and wider than the interspaces. According to McCulloch reaches 254 mm.

Queensland, New South Wales, Raoul Island.

all brownish.
Bering Sea.

1271

U. S. N. M., No. 48778.

Albatross Collection

Length 405 to 437 mm. 2 examples,
both poorly preserved.

U. S. N. M., No. 48799.

Albatross Collection (3634).

Length 400 mm. Type of Bogoslavius clarki.

U. S. N. M., No. 70846.

In 464 fathoms. June 3, 1906.

Albatross Collection (4768).

Length 210 mm.

47

Genus Atypichthys Günther

Atypichthys Günther, Cat. Fish. Brit. Mus.,
vol. 4, 1862, p. 510. Type Atypus strigatus
Günther, virtually (as Atypichthys
Günther proposed to replace Atypus
Günther).

Atypus (non Latreille 1804) Günther,
Cat. Fish. Brit. Mus., vol. 2, 1860, p. 64.

Type Atypus strigatus Günther, monotypic.
Helotosoma Kaup, Red. Tijds. Dierk., deel 1,
1863, p. 162. Type Helotosoma serpens Kaup,
monotypic.

Body compressed, oblong. Snout rather short.
Mouth cleft small, jaws equal. Villiform
teeth in jaws and on vomer, none on
palatines. Preopercle denticulated.
Air bladder bifurcate anteriorly and
posteriorly. Cylonic appendages 11.
Scales rather small, ctenoid, envelop

U.S.N.M., no. 70985.

1272

In 557 fathoms. June 4, 1906.
Albatross Collection (4774).

Length 223 mm.

U.S.N.M., no. 70986.

In 557 fathoms. June 4, 1906.
Albatross Collection (4774).

Length 243 to 334 mm. 4 examples.

U.S.N.M., no. 70987.

Albatross Collection (4775).

Length 242 to 391 mm. 7 examples.

46

Doidyxodon australis Thomson.

Doidyxodon australis (Guichenot) Thomson,
Bull. Soc. Philomath. Paris, vol. 5, series 7,
1881, p. 143. Australia.

Depth 2; head 4. Snout equals interorbital.
Eye long as fourth dorsal spine. Upper jaw
little protractile. Scales 53 to 55 in lateral
line, 9 above, 20 to 22 below, and 9 rows
on cheek. D. XV, 11; A. III, 10; P. 17; V. I, 5.
Brownish. Length 360 mm. (Thomson.)

1273

Coryphaenoides convergens (Garman)

Macrurus convergens Garman, Mem.
Mus. Comp. Zool., vol. 24, p. 210
(397), ~~1899~~ ~~type~~ pl. 48, fig. 1, 1899
(type locality: lat. $7^{\circ} 6' 15''$ N., long.
 $80^{\circ} 34'$ W., 695 fathoms; off Panama,
782 to 1020 fathoms).

Macrurus (Macrurus) convergens Brauer,
Deutsch. Tiefsee Exped. Valdivia,
vol. 15, p. 389, 1906 (reference).

Macrurus convergens Jordan, Evermann,
Clark, Rep. U. S. Comm. Fisher., pt. 2,
p. 206, 1930 (reference).

Lionurus convergens Gilbert and Hubbs,
Proc. U. S. Nat. Mus., vol. 51, p. 146, 1916
(reference).

1274

Coryphaenoides cuspidatus (Garman)

Macrurus cuspidatus Garman, Mem.
Mus. Comp. Zool., vol. 24, p. 209 (397),
1899 (type locality: lat. $27^{\circ} 34' N.$,
long. $110^{\circ} 53' 40'' W.$, 205 fathoms, Gulf
of California).

Macrurus (Macrurus) cuspidatus
Brauer, Deutsch. Tiefsee Exped.
Falkdivia, vol. 15, p. ~~406~~ 389, 1906
(reference).

Macrourus cuspidatus Jordan,
Evermann, Clark, Rep. U. S. Comm. Fisher,
Pt. 2, p. 206, 1930 (reference).

Lionurus cuspidatus Gilbert and Hubbs,
Proc. U. S. Nat. Mus., vol. 51, p. 146, 1916
(reference).

1275

Coryphaenoides cyclolepis (Gilbert)
Hematomurus cyclolepis Gilbert,
Rep. U. S. Fish Comm., pt. 19, p. 458,
1893 (1895) (type locality: off Queen
Charlotte Islands, 1588 fathoms).
— Garman, Mem. Mus. Comp. Zool.,
vol. 24, p. 395, 1899 (reference). —

Gilbert and Hubbs, Proc. U. S. Nat.
Mus., vol. 51, p. 143, 1916 (reference).

Moseleya cyclolepis Jordan and
Evermann, Bull. U. S. Nat. Mus., no.
47, pt. 3, p. 2570, 1898 (compiled).

Macrurus (Hematomurus) cyclolepis Brauer,
Deutsch. Tiefsee Exped. Valdivia, vol.
15, p. 391, 1906 (reference).

Dolloa cyclolepis Jordan, Evermann,
Clark, Rep. U. S. Comm. Fisher., pt. 2,
p. 203, 1930 (reference).

Depth 7; head $4\frac{3}{4}$, width 2.
Snout $3\frac{3}{5}$ in head; orbit $4\frac{1}{2}$,
 $1\frac{1}{6}$ in snout, equals interorbital;
maxillary reaches $\frac{3}{4}$ in eye,
length from front end $3\frac{4}{5}$ in
head; preoral profile vertically
oblique, length $5\frac{1}{4}$; mandibular
barbel $1\frac{1}{2}$ in orbit; teeth simple,
small, in narrow biserial band
above, below uniserial and
slightly smaller; interorbital
 $3\frac{3}{5}$ in head, low, nearly level.
Gill rakers 1 + 8 short tubercles
on second arch, $\frac{1}{3}$ of gill filaments,
which $2\frac{1}{5}$ in orbit.

Scales (poeketes) 95? in
lateral line; 12? above, 12?
below. Scales cycloid, with 12
to 14 circuli.

45

Genus Doidyxodon Thomiot.

Doidyxodon (Guichenot) Thomiot, Bull.
Soc. Philomath. Paris, vol. 5, series 7, 1881,
p. 143. Type Doidyxodon australis
(Guichenot) Thomiot, monotypic.

[Doidyxodon Valenciennes not involved.]

Teeth trenchant, curved, biserial, besides
inner villiform band. Palate edentulous?
Preopercle edge finely dentate. Cheeks
scaled. Fins scaleless. Scales on body
ciliated.

D. II, 8 — 80?, second simple ray with single sharp slender barb apically on front edge, turned little forward and backward; interdorsal space $3\frac{1}{8}$ in head; A. 80?, height at least equals snout length; pectoral rays I, 17, length $2\frac{4}{5}$? in head; ventral with long filament reaching at least $\frac{1}{5}$ of anal base.

Brown. Abdomen dusky. Head brown, gill opening and gill covers blackish. Fint light brown to whitish. Iris gray.

Queen Charlotte Islands.

U.S.N.M., No. 48585. Lat. $52^{\circ}39'30''$ N., long. $132^{\circ}38'$ W. In 1588 fathoms.

Albatross Collection (3342).

Length 128 mm.

143
7685. Babeli River. December 28, 1908.

Length 237 mm.

4 examples. Bani River, Luzon. June 15, 1909. Length 35641.2
21840 and 21841. Buena Vista, Guimaras

Island. January 14, 1909. Length 135 to 140 mm.

5643. Busin Harbor, Burias Island.

April 22, 1908. Length 188 mm.

21931. Caiholo River, Ulugan Bay, Palawan
Island. December 27, 1908. Length 200 mm.

6062 to 6064, 11920, 23733 and 23734. Dumaca
River, Luzon. February 25, 1909. Length 50 to
195 mm. 7 examples.

6560 to 6564. Head of Babeli River, Ulugan
Bay, Palawan. December 28, 1908. Length
190 to 202 mm.

21947. Iwahig River ^{and tributaries, Puerto Princesa,}
~~Palawan~~ Palawan.

April 4, 1909. Length 73 ^{to 100} mm. 5 examples.

19739 to 19947. Malampaya River, Palawan.

December 26, 1908. Length 34 to 186 mm. 10 examples.
2 examples. Hadda Bay, Palawan. December 31, 1908. Length 46 to 201.

11939. Nonuan River, Camp Overton, Mindanao.

August 6, 1909. Length 83 mm.

6 examples. Kato River, Luzon. June 18, 1909. Length 25 to 41 mm.

1278

Coryphaenoides darus (Gilbert and Hubbs)

Lionurus darus Gilbert and Hubbs,
Proc. U. S. Nat. Mus., vol. 51, p. (146) 197,
pl. 10, fig. 1, 1916 (type locality: Suruga
Gulf, Honda, 197 fathoms).

1279

Coryphaenoides denticulatus (Richardson)
Macrourus vel Lepidorhynchus
denticulatus Richardson, Voy. Erebus

and Terror, Fishes, p. 53, 1844-48
(type locality: coasts of South Australia).

Macrourus denticulatus Richardson, Voy.
Erebus and Terror, Fishes, pl. 32, figs.
1 to 3, 1844-48.

Macrurus denticulatus Günther, Rep.
Voy. Challenger, vol. 22, p. 147, 1887
(Off New Zealand, 275 fathoms; Kermadec
Islands, 520 fathoms).

Macrurus (Chalinura) denticulatus Brauer,
Deutsch. Tiefsee Exped. Valdivia, vol.
15, p. 390, 1906 (reference).

Coryphaenoides denticulatus Günther,
Cat. Fishes Brit. Mus., vol. 4, p. 396,
1862 (type). — Hutton, Fishes of New-
Zealand, p. 49, 1872 (Cook's Straits;

South Australia). — Günther, Rep.¹²⁸⁰
Voy. Challenger, vol. 1, pt. 6, p. 26,
1880 (Cook's Strait). — Macleay,
Proc. Linn. Soc. New South Wales,
vol. 6, p. 122, 1881 (South Australia).
— Garman, Mem. Mus. Comp. Zool.,
vol. 24, p. 395, 1899 (reference). —

Ziets, Trans. Roy. Soc. South Australia,
vol. 33, p. 266, 1909 ().
— Gilbert and Hubbs, Proc. U. S. Nat.
Mus., vol. 51, p. 144, 1916 (reference).

Optomus denticulatus Goode and Bean,
Oceanic Ichth., p. 614, 1895 (reference).
— McCulloch, Rec. Austral. Mus., vol.
6, pt. 5, p. 346, 1907 ()

— Waite, Rec. Canterbury Mus., vol. 1, no. 1,
p. 17, April 25, 1907 (reference); Rec.
South Austral. Mus., vol. 2, no. 1, p. 66,
April 23, 1921 (compiled). — Lord, Proc.

Roy. Soc. Tasmania, p. 65, 1922 (1923).

— Mc Culloch, Fishes New South Wales,¹²⁸¹
ed. 2, p. 33, pl. 11, fig. 116a, 1927.

Lepidorhynchus denticulatus Mc
Culloch, Biol. Res. Endeavour, vol. 5,
pt. 4, p. 183, pl. 48, June 8, 1926
(south and south west from Eucla,
south east from Genoa Peak, Victoria,
100 to 220 fathoms).

Coryphaenoides dubius (Smith and Radcliffe)
macrourus dubius Smith and Radcliffe,
Proc. U. S. Nat. Mus., vol. 43, p. 117, pl.
25, fig. 3, 1912 (type locality: Iligan
Bay, Mindanao, 410 fathoms).

Coryphaenoides dubius Gilbert and Hubbs,
Proc. U. S. Nat. Mus., vol. 51, p. 144, 1916
(reference); Bull. U. S. Nat. Mus., no. 100,
vol. 1, p. 409, 1920 (type).

Depth $5\frac{5}{6}$; head $4\frac{1}{4}$, width 2.
Snout to eye 3 in head; eye 8, $2\frac{1}{2}$ in
snout, $1\frac{4}{5}$ in interorbital; orbit 5 in
head, $1\frac{1}{2}$ in snout, $1\frac{1}{8}$ in interorbital;
maxillary reaches $\frac{1}{2}$ in orbit, length
from front end $2\frac{7}{8}$ in head;
mandibular barbel thick and fleshy
basally, $1\frac{1}{2}$ in orbit; teeth in villiform
bands in jaws, of 5 or 6 irregular series
transversely; interorbital 5 in head,
low, slightly convex. Gill rakers 0 + 7
low spinescent tubercles on second
arch, $\frac{1}{4}$ of gill filaments, which $\frac{1}{2}$
of orbit.

Scales 100 in lateral line to pseudocaudal; 8 above, 15 below, 16 or 17 forward to occiput. Scales apically with broad area of 35 to 40 rows of close set parallel apical spinules, last of which extended slightly beyond hind edge of scale; Circuli fine, basal.

D. II, 9-73, second simple ray slender, with front edge finely denticulated, length $1\frac{3}{5}$ in head; interdorsal space 7; A. 90, fin height $3\frac{1}{2}$; pseudocaudal (broken) 6?; pectoral I, 20, fin $1\frac{3}{4}$ in head; ventral I, 7, fin $1\frac{2}{5}$.

Uniform brownish. Iris gray. Lips little paler than under surface of head. Inside gill opening dusky. Fins more or less blackish to blackish brown.

145

Toxotes oligolepis Bleeker.

Toxotes oligolepis Bleeker, Verslagen Akad.
wet. Amsterdam, deel 9, series 2, 1876, p.
162. Moluccas (Batjan? Buru?). —

Bleeker, Atlas Ichth., vol. 9, 1877, p. 3, plate
(1) 363, fig. 3 (Batjan? Buru?).

Toxotes jaculator (non Pallas) Valenciennes^{Cuvier},
Hist. Nat. Poiss., vol. 7, 1831, p. 234 (Buru).
— Valenciennes, Regne Animal Cuvier, Poiss.
Ill., 1839, plate 44, fig. 3 (Buru).

Head $2\frac{2}{5}$; depth $2\frac{1}{3}$; D. V, 11 or 12; A.
III, 16 or 17; scales 23 or 24, 4 above, 9 or 10
below, 22 predorsal; eye $3\frac{1}{3}$ in head.
Five broad, transverse, dusky bands
on back. Length 141 mm. (Bleeker).

Philippines.

1284

U. S. N. W., No. 72934. Camp
Overton Light, S. 80° E., 15.3 miles
(lat. 8° 15' 20" N., long. 123° 57' E.),
northern Mindanao. In 410 fathoms.
August 7, 1909. Albatross Collection
(D. 5511). Length 425 mm. Type
Macrourus dubius.

- 11 examples. Pangasinan^{an} River, Port Calton^m. December 16, 1905. ^{Length 31 to 62 mm.} (144)
 22618. Paluan River, Mindoro.
- December 11, 1908. Length 68 mm. ^(Length 30 to 35 mm.)
 2 examples. Port Van Pi. Quibto, Camiguin Island. November 11, 1908.
 13964. Port Van Vicente, Paluan River.
- November 14, 1908. Length ^{43 to} 150 mm. 5 examples.
 4991, 4995 to 4998, 5000, 5382 to 5383, 8265,
 11246 and 11247, 21703 to 21706. Ragay River
 fresh water, Ragay Gulf. March 10, 1909.
 Length 65 to 262 mm.
8539. San Fernando, Union Province, Luzon.
 March 17, 1908. Length 82 mm.
- 6085 and 6086. Zamboanga market. May 29,
 1908. Length 214 to 245 mm.
11740. Sandakan market, Borneo. March
 2, 1908. Length 158 mm.
5105. Sandakan Bay. March 3, 1908. Length
 202 mm.
- 57983 U.S.N.M. Zamboanga. Dr. E. A.
 Mearns. Length 175 to 180 mm. 2 examples.

1285

Coryphaenoides ectenes (Gilbert and Cramer)

Macrurus ectenes Gilbert and Cramer,
Proc. U. S. Nat. Mus., vol. 19, p. 423,
pl. 44, fig. 1, 1897 (type locality: off
Hawaiian Islands, 313 fathoms). —

Gilbert, Bull. U. S. Fish Comm., vol. 23,
pt. 2, p. 667, 1903 (compiled).

Macrurus ectenes Garman, Mem. Mus.
Comp. Zool., vol. 24, p. 396, 1899 (reference).

Macrurus (Macrurus) ectenes Brauer,
Deutsch. Tiefsee Exped. Valdivia, vol.
15, p. 389, 1906 (reference).

Lionurus ectenes Gilbert and Hubbs,
Proc. U. S. Nat. Mus., vol. 51, p. 146, 1916
(reference).

Coryphaenoides ectenes Fowler, Mem.
Bishop Mus., vol. 10, p. 86, 1928 (compiled).

1286

Depth $10\frac{1}{5}$; head $7\frac{1}{5}$, width $2\frac{1}{10}$.
Snout 4 in head, $1\frac{3}{5}$ in eye;
eye $2\frac{1}{2}$ in head; maxillary reaches
 $\frac{2}{5}$ in eye, length from front end
 $2\frac{3}{4}$ in head; preoral length $4\frac{4}{5}$;
mandibular barbel $\frac{1}{3}$ of eye;
teeth minutely villiform, in bands
in jaws, of 5 to 7 irregular
transverse rows; interorbital 4
in head, $1\frac{3}{4}$ in eye, low, nearly
level. Gill rakers 1 + 7 low tubercles
on second arch, $\frac{1}{3}$ of gill filaments,
which $\frac{1}{3}$ of eye.

Scales (pockets) 250? in lateral
line; 10 above, 20? below, 18?
Predorsal forward till opposite
hind orbital edge. Scales with 3
slightly divergent rows of several
long slender apical spines, last
extended behind scale edge; circuli

~~Godman, East India, Greenland.~~

few, complete.

D. I, 10 — second fin indistinct or rudimentary, second simple ray pungent, with several antorse wide set basal spines, length (broken) 2? in head; A. 135? (to end of broken tail), fin evidently low; pectoral rays I, 21, fin 1 1/2? in head; ventral rays I, 8, fin 3?

Dark brown. Breast and abdomen black. Iris neutral black. Inside gill opening rather pale, also inside mouth. Fins brownish.

Hawaiian Islands. A small species, with very large eye and extremely long, slender, tapering tail.

III, 15 or 16, third spine $2\frac{2}{3}$ to $2\frac{4}{5}$, first ray $2\frac{1}{5}$ to $2\frac{1}{2}$; least depth of caudal peduncle 3 to $3\frac{2}{5}$; caudal slightly emarginate, $1\frac{2}{5}$ to $1\frac{3}{5}$; pectoral $1\frac{1}{4}$ to $1\frac{1}{3}$; ventral 2 to $2\frac{2}{5}$.

Back pale brown, lower surface whitish, with silvery reflections. Five large blackish brown blotches above, first on head, others on back. Iris pale. Fins all largely pale brownish, with fourth blotch of upper surface extended over basal half at least of ^{soft} dorsal; also rather broad blackish blotch on soft dorsal edge posteriorly. Anal largely dusky to blackish brown, especially marginally, fin paler basally. Caudal light brown, much paler or whitish in young, basally with dusky. Paired fins pale.

U. S. N. M., No. 47718. Lat. $21^{\circ}15'$
N., long. $157^{\circ}30'W$.

In 313 fathoms. December 6, 1891.

Albatross Station (D. 3473). Length
130 mm to end of broken tail. Type
of macrurus ectenes.

59981 U.S.N.M. Port Jackson. D. G. Stead.

3 examples. Length 85 to 128 mm.

48809 U.S.N.M. Port Jackson. J. D. Gilby.

3 examples. Length 107 to 120 mm.

59941 U.S.N.M. Port Jackson. D. G. Stead.

3 examples. Length 121 to 127 mm.

84372 U.S.N.M. Lord ^{Howe} ~~Howe~~ Island.

Length 350 mm.

Chrysomelidae

1289

Coryphaenoides fernandezianus (Günther)

Macurus fernandezianus Günther,
Rep. Voy. Challenger, vol. 22, p. 145,
pl. 38, fig. 13, 1887 (type locality:
south of Juan Fernandez, 1375 fathoms).

Macurus (Chalinura) fernandezianus
Brauer, Deutsch. Tiefsee Exped.
Valdivia, vol. 15, p. 390, 1906 (reference).

Chalinura fernandezianus Goode and Bean,
Oceanic Ichth., p. 412, 1895 (reference).

Chalinura fernandeziana Garman, Mem.
Mus. Comp. Zool., vol. 24, p. 395, 1899
(reference).

Coryphaenoides fernandezianus Gilbert
and Hubbs, Proc. U. S. Nat. Mus., vol.
51, p. 143, 1916 (reference).

Coryphaenoides ferrieri (Regan)

Chalinura ferrieri Regan, Rep. Voy.
Scotia, vol. 4, Zool., p. 318, pl. 2, fig. 1,
1915 (type locality: lat. $71^{\circ}22'S$, long.
 $16^{\circ}34'W$, off Coats Land, 1410 fathoms).

Coryphaenoides ferrieri Gilbert and Hubbs,
Proc. U. S. Nat. Mus., vol. 51, p. 143,
1906 (reference).

1291

Coryphaenoides filifer (Gilbert)

Chalinura filifera Gilbert, Rep. U.S. Fish Comm., pt. 19, p. 458, 1893 (1895)
(type locality: off Queen Charlotte Island, 1588 fathoms). — Jordan

and Evermann, Bull. U.S. Nat. Mus., no. 47, pt. 3, p. 2577, 1898 (copied). —
Garman, Mem. Mus. Comp. Zool., vol. 24, p. 395, 1899 (reference). — Jordan,

Evermann, Clark, Rep. U.S. Comm. Fisher., pt. 2, p. 204, 1930 (reference).

Coryphaenoides filifer Gilbert and Hubbs, Proc. U.S. Nat. Mus., vol. 51, p. 143, 1916 (reference).

Depth $6\frac{1}{2}$ (to end of broken tail); head $4\frac{3}{4}$, width $2\frac{1}{8}$. Snout to eye $3\frac{3}{4}$ in head; eye $5\frac{1}{8}$, $1\frac{2}{5}$ in snout, $1\frac{1}{5}$ in interorbital; orbit $3\frac{4}{5}$ in head, subequal with snout or interorbital; preoral length short, $2\frac{1}{3}$ in orbit; maxillary reaches $\frac{2}{3}$ in eye, length from front end $2\frac{1}{2}$ in head; mandibular barbel $4\frac{1}{2}$ in orbit; teeth in villiform bands in jaws, 4 or 5 irregular rows transversely; interorbital $4\frac{1}{8}$ in head, low and nearly level. Gill rakers $2 + 10$ short spinescent tubercles on second arch, $\frac{1}{2}$ of gill filaments, which $2\frac{2}{3}$ in orbit.

Scales (pockets) 145 in lateral line to end of broken

175

Ephippus multifasciatus Fowler, Proc.

Acad. Nat. Sci. Phila., 1923, p. 44 (Victoria).

Scatophagus aetate-variatus De Vis, Proc.

Linn. Soc. New South Wales, vol. 9, 1884

(1885), p. 456. Queensland Coast. — Kent,

Great Barrier Reef, 1893, p. 1 (Queensland).
284 (369), plate 47, fig. 4

Scatophagus semistrigatus Kent, l.c., p. 370.

Queensland. (Homen medium.)

Differ from Scatophagus argus in the presence of 6 to 17 dark vertical bands on the back. Though the type was but 188 mm. long Mc Culloch says the species reaches 408 mm.

East Africa, New Guinea, Australia.

30645

30612 U.S.N.M. New Guinea. Australian Museum. Length 93 to 97 mm. 2 examples.

Both with 7 dark vertical lines and few dark spots on lower sides.

tail; 14 above, 23? below, 58?
 predorsal of which 30 forward
 till opposite hind pupil edge.
 Scales with 5 parallel apical
 spinuliferous keels, last
 spinules not extended beyond
 hind scale edge; circuli fine,
 complete.

D. II, 14 - 90 (to end of broken
 tail), second simple ray slender,
 front edge with row of close set
 antrorse denticles, length $1\frac{2}{5}$ in
 head; interdorsal space $7\frac{4}{5}$;
 A. 87 (to end of broken tail);
 pectoral rays I, 22, fin $1\frac{7}{8}$ in
 head; ventral rays I, 8, fin $1\frac{3}{4}$.

Uniformly brown. Iris dark
 gray. Branchiostegal region,
 breast and belly more or less
 dark or blackish brown. Inside

~~Scatophagus multifasciatus Richardson.~~

Scatophagus multifasciatus Richardson,
Voy. Erebus and Terror, Fish., 1844-48,
p. 57, plate 35, figs. 4-6. King George's
Sound, Australia. — Günther, Cat. Fish.
Brit. Mus., vol. 2, 1860, p. 60 (type, Sydney,
Cape York). — Steindachner, Sitzb. Akad.
Wiss. Wien, band LV, heft 1, 1867, p. 310 (Cape
York). — Alleyne and Macleay, Proc. Linn.
Soc. New South Wales, vol. 1, 1876, p. 277
(Cape York and Hall Sound). — Castelnau,
Proc. Linn. Soc. New South Wales, vol. 3, 1878,
p. (350) 376 (Port Jackson). — Klunzinger,
Sitzb. Akad. Wiss. Wien, band 80, heft 6, 1879, p.
363 (Port Darwin, Port Denison, Cleveland
Bay). — Macleay, Proc. Linn. Soc. New South
Wales, vol. 8, 1883, p. 370 (Lower Burdekin River,
Queensland). — McCulloch, Austral. Zool.,
vol. 2, pt. 2, 1922, p. 90, plate 26 (New South
Wales).

mouth dark-drab. Inside gill ¹²⁹⁴
opening blackish brown. Fins
more or less dark brown,
especially paired ones.

Queen Charlotte Islands.
Known by its short mental barbel
and very short preoral, the large
mouth appearing more or less
subterminal inferiorly, also short
interdorsal space. It is a dark,
obscurely colored species.

U. S. N. M., No. 48626. Lat. $52^{\circ}29'$
 $30''$ N., long. $132^{\circ}30'$ W.

Albatross Collection.

Length

87016 U.S. N. M. Kweichow, China.

172

Howery. Length 78 to 170 mm.

2 examples. Both with large dark spots.

1295

Coryphaenoides firmisquamis (Gill and Townsend)

Macrurus firmisquamis Gill and Townsend,
Proc. Biol. Soc. Washington, vol. 11, p.
234, 1897 (type locality: Bering Sea
north west of Pribilof Islands).

Bogorlovius firmisquamis Jordan and
Evermann, Bull. U. S. Nat. Mus.,
No. 47, pt. 3, p. 2575, 1898 (copied). —
Evermann and Goldsborough, Bull.
Bur. Fisher., vol. 26, p. 349, 1906 (1907)
(Bering Sea). — Jordan, Evermann,

Clark, Rep. U. S. Comm. Fisher., pt. 2, p.
204, 1930 (compiled).

Hematonurus firmisquamis Gilbert
and Hubbs, Proc. U. S. Nat. Mus., vol.
51, p. 143, 1916 (reference).

1296

Depth $6\frac{2}{5}$ to 7; head 5, width $1\frac{3}{4}$. Snout to eye $3\frac{1}{8}$ to $3\frac{1}{6}$ in head; eye $5\frac{1}{4}$ to $5\frac{2}{5}$, $1\frac{3}{4}$ to $1\frac{4}{5}$ in snout, $1\frac{1}{4}$ to $1\frac{1}{3}$ in interorbital; orbit 3 to $4\frac{1}{5}$ in head, $1\frac{1}{8}$ to $1\frac{1}{5}$ in snout, 1 in interorbital; maxillary reaches $\frac{3}{4}$ of eye to opposite hind edge of orbit, length from front end $2\frac{2}{5}$ to $2\frac{4}{5}$ in head; mandibular barbel $\frac{1}{2}$ of eye; teeth small, conic, pointed, in 2 or 3 rows above with outer slightly enlarged, lower biserial though with inner row slightly larger; interorbital $3\frac{2}{3}$ to 4 in head, low, broadly concave medially. Gill rakers 2 + 10, low spinescent knobs, $\frac{1}{3}$ of gill filaments, which $\frac{1}{2}$ of orbit.

Scales 152 in lateral line to

45072 U.S.N.M. Philippines.

171

H. Veitch. Length 94 to 106 mm. 3 examples.

52036 U.S.N.M. Southern Regrov.

Dr. Bashford Dean 1901. Length 95 mm.

55937 U.S.N.M. Balon. Bureau of Fisheries. Length 165 mm. [4087.]

55986 U.S.N.M. Rio Grande, Mindanao. Philippine Commission. Length 260 mm. [4122.]

56303 U.S.N.M. Carite. G. A. Lutz. Length 130 mm.

57925 U.S.N.M. Zamboanga. Dr. E. A. Mearns. Length 32 mm.

61158 U.S.N.M. Zamboanga. Dr. E. A. Mearns. Length 90 to 102 mm. 2 examples.

72201 U.S.N.M. Moilo. R. C. McGregor. Length 60 mm.

82102 U.S.N.M. Soerabaja, Java.

W. L. Brind. Length 34 to 51 mm.

5 examples. All with large spots.

pseudocaudal; 10 or 11 above, 18 below, 60 predorsal of which 30 forward opposite hind eye edge. Scales with 3 to 8 radiating apical spinuliferous ridges, last spinules extended behind scale edge; circuli fine, complete.

D. II, 10-126, second simple ray slender, with row of small antrorse spines along its front edge, length $1\frac{2}{5}$ to $1\frac{3}{5}$ in head; interdorsal space $1\frac{1}{2}$ to $1\frac{2}{3}$ in orbit; A. 105, fin height $3\frac{1}{5}$ to $4\frac{1}{3}$ in head; pseudocaudal $\frac{1}{5}$ of eye; pectoral rays I, 19, fin $1\frac{7}{8}$ to 2 in head; ventral rays I, 7, fin $1\frac{2}{3}$ to $1\frac{3}{4}$ in head, first simple ray ending in filament.

170
5 examples. Kowloon. August 22,
1908. Length 13 to 18 mm.

91 examples. Kowloon. September 9, 1908.
Length 13 to 24 mm.

2 examples. Kowloon. September 12, 1908.
Length 20 mm.

29 examples. Kowloon. September 14, 1908.
Length 15 to 24 mm.

16 examples. Kowloon. September 18, 1908.
Length 14 to 23 mm.

5709 U.S.N.M. Hong Kong. William Stimpson.
Length 82 to 147 mm. 2 examples.

~~30644 U.S.N.M. New Guinea. Australian
Museum. Length 93 to 97 mm. 2 examples.~~

30645 U.S.N.M. New Guinea. Australian
Museum. Length 107 mm. 1 example.

32726 U.S.N.M. Indian Archipelago.
Leiden Museum. Length 128 mm.

44766 U.S.N.M. Rangoon. L. Lea.
Length 55 mm.

1298

Uniformly brown. Eye little
pale to gray. Inside gill opening
blackish, inside mouth paler!
Fins all more or less dusky.

Bering Sea.

U.S. N. M., No. 48772.

Albatross Collection (D. 1310).

Length 778 mm. Type of macurus
firmisquamis.

U.S. N. M., No. 57804.

Albatross Collection (D. 3274).

Length 520 mm.

169
5073. Sandakan, Borneo. February 29,
1908. Length 198 mm.

5100, 5103, 12048. Sandakan. March 2,
1908. Length 107 to 180 mm.

6831 and 6832. Hong Kong market.
October 18, 1909? Length 183 to 200 mm.

12 examples. Kowloon docks, China.
August 19, 1909. Length 15 to 24 mm.
Dark above, bars blackish. Forehead, nape,
spinous dorsal membranes and blotch
at both anterior and posterior base of
soft dorsal scarlet, also front of
ventrals. First dorsal and ventral
blackish, other fins hyaline or whitish.
These little fish were swimming slowly
at the surface, feeding in garbage,
and could dive quickly when frightened.
Not very abundant and 1 larger one
seen.

1299

Coryphaenoides fragilis (Garman)

Macrurus fragilis Garman, Mem. Mus. Comp. Zool., vol. 24, p. 203 (396), pl. 46, fig. 1, 1899 (type locality: lat. $6^{\circ}17'N.$, long. $82^{\circ}5'W.$, in 1672 fathoms, off Mariato Point, Gulf of Panama; south west of Malpelo Island, 1823 fathoms).

Macrurus (Macrurus) fragilis Brauer, Deutsch. Tiefsee Exped. Valdivia, vol. 15, p. 390, 1906 (reference).

Macrourus fragilis Jordan, Evermann, Clark, Rep. U. S. Comm. Fisher., pt. 2, p. 206, 1930 (reference).

Lionurus fragilis Gilbert and Hubbs, Proc. U. S. Nat. Mus., vol. 51, p. 146, 1916 (reference).

U.S.N.M., No. 57857. Lat. $2^{\circ}35'N$,
long. $83^{\circ}53'W$.

In 1823 fathoms.

Albatross Collection (D. 3374).

Length 167 mm. In very poor condition,
characters not made out.

11248 to 11250, 22940 to 22943. Ragay River,
Ragay Gulf. March 10, 1909. Length 110 to
144 mm.

4 examples. River at Lakoda Bay.
December 31, 1908. Length 55 to 84 mm.

22487 to 22490. River at Port Dupon, Leyte.
March 17, 1909. Length 48 to 58 mm.

8545. San Fernando, Union Province, Luzon.
March 17, 1908. Length 72 mm.

A 790. Sebati Island. October 1, 1909.
Length 190 mm.

5628, 5629, 5631, 19871 to 19873. Stream at
Magna Lagnay, Gulf of Luzon. June 17, 1909.
Length 63 to 120 mm.

21823. Gerwi River, Tayabas. February 25,
1909. Length 55 mm.

6090 and 6091. Zamboanga market. May 29,
1908. Length 190 to 210 mm.

(D. 5548) Zamboanga. October 12, 1909.
Length 10 to 11 mm. 5 examples.

1301

Coryphaenoides gibber (Gilbert and Cramer)

Macrurus gibber Gilbert and Cramer, Proc. U.S. Nat. Mus., vol. 19, p. 426, pl. 44, fig. 2, 1897 (off Hawaiian Islands, 351 to 375 fathoms).

— Gilbert, Bull. U.S. Fish Comm., vol. 23, pt. 2, p. 668, 1903 (1905) (off Molokai; Kauai; Hawaii; Kaiwi Channel; Bird Island; 253 to 800 fathoms).

Macrurus gibber Garman, Mem. Mus. Comp. Zool., vol. 24, p. 396, 1899 (reference).

Macrurus (Macrurus) gibber Brauer, Deutsch. Tiefsee Exped. Valdivia, vol. 15, p. 389, 1906 (reference).

Lionurus gibber Gilbert and Hubbs, Proc. U.S. Nat. Mus., vol. 51, p. 146, 1916 (reference).

1302

Coryphaenoides gibber Fowler, Mem.
Bishop Mus., vol. 10, p. 86, 1928
(Hawaiian Islands).

Depth $5\frac{1}{3}$ to $5\frac{2}{5}$; head 5 to $5\frac{2}{5}$, width $1\frac{4}{5}$ to 2. Snout $3\frac{1}{3}$ to $3\frac{2}{5}$ in head; eye $3\frac{1}{4}$ to $3\frac{1}{3}$, 1 in snout, 1 to $1\frac{1}{10}$ in interorbital; maxillary reaches $\frac{1}{4}$ to $\frac{2}{5}$ in eye, length from front end $2\frac{2}{5}$ to $2\frac{4}{5}$ in head; mandibular barbel $1\frac{1}{3}$ to $1\frac{2}{5}$ in eye; teeth minute, villiform, in narrow bands in jaws of 4 to 6 irregular transverse series; interorbital $3\frac{1}{2}$ to $3\frac{3}{5}$ in head, low, nearly level. Gill rakers 1 + 13, low spinous tubercles on second arch, $\frac{1}{3}$ of gill filaments, which $2\frac{1}{5}$ in eye.

Scales (pockets) 114 in lateral line. To pseudocaudal; 14 above, 19 or 20 below, 36 predorsal forward to snout end, of which 20 extend forward till opposite hind edge of orbit. Scales with 6 or 7 radiating rows

1303

of short broad based apical spines,
last projecting slightly behind
scale edge; circuli moderate,
complete.

D. II, 10 or II, 11 — 85, second
slender ray pungent, basally with
row of antrorse serrae along front
edge, terminally filamentous,
length 5 in total fish; A.
91 to 98, fin height $3\frac{1}{3}$ to $3\frac{2}{5}$ in
head; pectoral rays I, 19, fin
 $1\frac{1}{4}$ to $1\frac{2}{5}$ in head; ventral rays
I, 11, fin 2 in head.

Brown. Head above pale,
much lighter than body. Jaws,
under surface of head, opercles,
breast and belly dark-gray to
neutral black, same shade
extended back far as depressed
pectoral above front of anal fin.

Iris grayish. Inside mouth
gray. Inside gill openings
blackish. Fins light brown.

Hawaiian Islands.

U. S. N. M., No. 47733. Lat. $21^{\circ} 8' N$,
Long. $157^{\circ} 43' W$.

December 6, 1889.

Albatross Collection (D. 3475). Length
180 to 183 mm. Type macrourus gibber,
larger specimen, other paratype.

U. S. N. M., No. 55242.

Albatross Collection.

Length 107 to 205 mm. 11 examples.

U. S. N. M., No. 52243.

Albatross Collection.

Length 72 to 233 mm. 12 examples.

9059 and 9060. Libuyoa, Leyte Island.
July 26, 1909. Length 175 to 223 mm.

26 exemplars. ~~Ani~~^{Ani} River, Passi, Iloilo
Province. January 13, 1909. Length 107 to 152 mm.

20131. Bacor, Luzon market. June 15, 1908
Length 130 mm.

1 example. Basut River, Luzon. June 15, 1909. Length 26 mm.

5360. Bumbum Island. September 25, 1909.

Length 115 mm.

1 example. Below Mindanao River mouth, Catabato. May 20, 1908. ^{Length 28 mm.}

5847. Catabato market. May 20, 1908.

Length 150 mm.

21530 Catabato, Rio Grande, Mindanao.

October 26, 1903. Length 78 mm.

6714. Cavite market. December 1, 1908.

Length 160 mm.

7 exemplars. Cebu dock. September 5, 1909. Length 20 to 27 mm.

6059. Dumaca River, Luzon. February 25, 1909.

Length 110 mm.

6642. Iloilo market. March 28, 1908.

Length 91 mm.

21948 to 21950. Iwahig River, Palawan.

April 4, 1909. Length 76 to 130 mm.

U.S.N.M., No. 55261.

1305

Albatross Collection.

Length 160 to 222 mm. 4 examples.

India, Ceylon, Andaman, East
Indies, Siam, Philippines, China,
Queensland. Besides living along the
shores of these countries it also enters
tidal waters and rivers. The young
are quite different from the adult,
with a bony keel from the eye to the
shoulder ending in a spine. When
transformed, largely on account of
their contrasted color pattern, they are
sometimes exported as aquarium fishes.
It is also said to be a foul feeder
and not much used as a food fish.
The variation in our series is very
great in the size and number of
dark spots on the body.

1306

Coryphaenoides goodii (Günther)

Macurus goodii Günther, Rep. Voy. Challenger, vol. 22, p. 136, 1887 (on Macurus asper Goode and Bean).

Hymenocephalus goodii Goode and Bean, Oceanic Ichth., p. 407, pl. , fig. 340, 1896 (lat. 39° to 41° N., long. 65° to 71° ; off Havana; 154 to 1608 fathoms).

Hematomus goodii Jordan and Evermann, Bull. U.S. Nat. Mus., no. 47, pt. 3, p. 2571, 1898 (copied). — Gilbert and Hubbs, Proc. U.S. Nat. Mus., vol. 51, p. 143, 1917 (reference).

Macurus asper (not Günther) Goode and Bean, Bull. Mus. Comp. Zool., vol. 10, p. 196, 1883 (type locality; lat. $41^{\circ}24'25''$ N., long. $65^{\circ}35'30''$ W., 1242 fathoms). —

Minor, Rep. U.S. Fish Comm., pt. 11, p. 185, 1883 (1885) (lat. 38° to 39° N., long. 70° to 72° W., 1091 to 2102 fathoms); Science,

1307

vol. 2, p. 6170, Nov. 9, 1883 (Albatross
Stations D. 2095 and D. 2096). —

Parker, in Benedict, Rep. U. S. Fish
Comm., pt. 12, p. 101, 1884 (1885) (lat.
39° N., long. 70° W., 1058 to 1122 fathoms).

— Tanner, Rep. U. S. Fish Comm., pt. 14,
p. 632, 1886 (1889) (lat. 38° to 41° N., long.
65° to 70° W., 1188 to 1544 fathoms).

Depth 6 to $7\frac{4}{5}$; head $5\frac{1}{4}$ to $5\frac{2}{3}$, width
 $1\frac{3}{4}$ to $2\frac{1}{8}$. Snout to eye $3\frac{1}{4}$ to $4\frac{1}{8}$ in
head; eye 6 to $7\frac{1}{4}$, 2 in snout, $1\frac{3}{5}$ to
 $1\frac{3}{4}$ in interorbital; orbit $4\frac{1}{4}$ to $5\frac{2}{5}$
in head, $1\frac{1}{8}$ to $1\frac{1}{4}$ in snout, maxillary
reaches hind eye edge or hind orbital
edge, length from front end $2\frac{2}{3}$ to $2\frac{4}{5}$
in head; mandibular barbel 1 to $1\frac{1}{4}$ in
eye; teeth simple, conic, rather small,
similar, uniserial in jaws; interorbital
 $3\frac{3}{4}$ to 4 in head, low, depressed forward.
Gill rakers 1 + 10 short spinescent tubercles
on first arch, $\frac{1}{3}$ of gill filaments, which
 $1\frac{1}{8}$ in eye.

1308

Scales 140 to 150 in lateral line;
8 above, 19 below, 50 predorsal.

Scales with 8 or 9 low spinuliferous
apical parallel keels, last spines
not extended behind hind scale edge;
circuli fine, extended apically.

D. II, 8 or II, 9 — 140 to 150, second
simple ray pungent, with row of
antrorse serrae along its front edge;
interdorsal space $1\frac{2}{5}$ to $2\frac{1}{8}$ ^{in head}; A.
110 to 120, fin height $3\frac{1}{4}$; pectoral
rays I, 19 to I, 20, fin $1\frac{1}{2}$ to $1\frac{2}{3}$ in
head; ventral rays I, 8, fin $1\frac{7}{8}$ to
 $2\frac{1}{8}$.

Uniform brown, edge of gill
opening blackish brown. Iris
brown. Inside mouth gray.
Inside gill opening blackish brown.
Fins all dark brown.

Western Atlantic.

164

young to 3 in combined head and body
in Adult.

Back brown, with various gray to dark
lavender tints. Under surface of head
and body white with silvery tinge.
Iris brownish. Vertical fins like
back, or dark lavender brown to
light brown, and usually more or
less spotted or mottled with darker.
Back, sides and often vertical fins
very variably spotted, dotted or
blotched with blackish brown to black.
In some examples spots very large, even
greater than eye or 7 or 8 along extent
of lateral line. In others 15 or 20 small
spots or dots would extend along lateral
line. Sometimes spots very numerous, closely
crowded and in others very few, scattered
and even absent from sections of the
back and vertical fins. Paired fins pale brown.

U.S. N. W., No. 33274. Lat. $39^{\circ}26'$ ¹³⁰⁹
16"N., long. $10^{\circ}2'37''$ W.

Albatross Collection (). Length 290
to 558 mm. 4 examples.

U.S. N. W., No. 33276. Lat. $39^{\circ}26'$
N., long. $70^{\circ}2'$ W.

Albatross Collection (). Length
330 to 435 mm. 10 examples.

U.S. N. W., No. 33277. Lat. $38^{\circ}53'$
N., long. $69^{\circ}23'30''$ W.

Albatross Collection (). Length
320 to 583 mm. 3 examples.

U.S. N. W., No. 33278. Lat. $38^{\circ}52'$ N.,
long. $69^{\circ}24'$ W.

Albatross Collection (). Length 395
to 458 mm. 4 examples.

U.S. N. W., No. 33455. Lat. $41^{\circ}9'$ N., long.
 $66^{\circ}2'$ W.

Albatross Collection (). Length 305
to 390 mm. 2 examples.

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p. 18 (Manado, Celebes; Manila Bay and Cebu). — Day, Fauna British India, vol. 2, 1889, p. 18, fig. 6. — Elera, Cat. Fauna Filip., vol. 1, 1895, p. 487 (Luzon, Manila Bay, Masubu, Cebu, Visayas). — Pellegrin, Bull. Soc. Zool. France, tome 30, 1905, p. 84 (Baie d'Along, Tonkin). — Seale and Bean, Proc. U. S. Nat. Mus., no. 33, 1907, p. 246, fig. 8 (Zamboanga). — Seale, Philippine Journ. Sci., vol. 5, no. 4, 1910, p. 282 (Sandakan, Borneo). — Beaufort, Bijl. Dierk. Amsterdam, deel 19, 1913, p. 124 (Ambonia and West Ceram). — Weber, Siboga Exped., band 65, 1913, p. 302, plate 10, figs. 1-5 (Lombok, Macassar, Saleyer). — Zugmayer, Abhand. K. Bayer. Akad. Wiss., band 26, abth. 6, 1913, p. 11 (Mekekan). — Johnstone, Rep. Pearl Fisher. Ceylon, vol. 2, 1914, p. 220 (Ceylon). — Fowler, Copeia, no. 58, June 18, 1918, p. 64 (Philippines). — McCulloch, Austral. Zool., vol. 2, pt. 3, February 10, 1922,

U. S. N. M., No. 33339. Lat. $39^{\circ}70'N.$,

long. $69^{\circ}21'W.$

Albatross Collection (). Length
265? to 485 mm. 5 examples.

U. S. N. M., No. 38164. Lat. $36^{\circ}34'N.$,

long. $73^{\circ}48'W.$ In 1374 fathoms. October
24, 1886. Albatross Collection (2725).

Length 250 mm.

U. S. N. M., No. 38137. Lat. $36^{\circ}47'N.$,

long. $73^{\circ}9'W.$ In 1685 fathoms.

October 23, 1882. Albatross Collection
(2723). Length 250 mm.

U. S. N. M., No. 44256. Lat. $40^{\circ}1'N.$,

long. $67^{\circ}29'W.$

Albatross Collection (). Length
348 to 408 mm. 2 examples.

U. S. N. M., No. 44259. Lat. $39^{\circ}22'N.$,

long. $71^{\circ}23'W.$

Albatross Collection (). Length
473 mm.

Klunzinger, Sitzg. Akad. Wiss. Wien, Band 80(1), 1879, p. 363
 (Queensland and Port Darwin).

China, India). — Day, Fishes of Malabar,
 1865, p. 34. — Kner, Reis. Novara Fische,
 1867, p. 106 (Singapore, Java, Tahiti). —
Peters, Monatsb. Akad. Wiss. Berlin, 1868,
 p. 257 (Pongoor, Singapore, Malacca,
 Quingon River at Calumpit and Bicol River,
 Luzon). — Schmeltz, Mus. Godeffroy Cat.,
 vol. 4, 1869, p. 15 (East Indies, Port Moresby,
 Rockhampton). — Day, Fishes of India, pt.
 1, 1875, p. 114, plate 29, fig. 3. — von Martens,
 Preuss. Exped. Ost Asien, 1876, p. 388 (Bangkok,
 Pontiak, Panuranan). — Castelnau, Proc.
 Linn. Soc. New South Wales, vol. 2, 1877, p. 234
 (Brisbane River mouth, Norman River entrance
 and Cardwell); vol. 3, 1878, p. 350 (Port Jackson).
 — Sauvage, Bull. Soc. Philom. Paris, (7) Tome 5,
 series 7,
 1881, p. 105 (Swatow). — Károli, Termesz.
 Füzetek Budapest, vol. 5, 1881, p. 156
 (Sarangon, Ladang Makang). — Meyer,
 Ann. Soc. Esp. Hist. Nat. Madrid, vol. 14, 1885,

1311

U. S. N. M., No. 44260. Lat. $39^{\circ}22'$

N., long. $71^{\circ}22'$ W.

Albatross Collection (). Length
465 mm. Teeth largely uniserial
and alike in jaws.

U. S. N. M., No. 44261. Lat. $39^{\circ}22'$

N., long. $71^{\circ}23'$ W.

Albatross Collection (). Length
393 mm.

U. S. N. M., No. 45957.

Length 222 to 298 mm. 3 examples.

U. S. N. M., No. 45958.

Length 305 to 310 mm. 2 examples.

157

Scatophagus argus (Linnaeus).

Chaetodon argus Linnaeus, Syst. Nat., Ed. 12,
1766, p. 464. India. — Bloch, Naturg.

Aust. Fisch., vol. 3, 1787, p. 86, plate 204,
fig. 1 (East Indies). — Gmelin, Syst. Nat.

Linn., 1789, p. 1248 (India). — Bloch,
l.c., vol. 9, 1795, p. 100 (Tranquebar). —

Walbaum, Arted. Pisc., vol. 3, 1792, p.
409 (copied). — Forster, Faun. Indica,

1795, p. 15. — Schneider, Syst. Ichth. Bloch,

1801, p. 232 (East Indies). — Lacépède, Hist. Nat.

Poiss., vol. 4, 1802, pp. 455, 479 (Asia).

Chetodon argus Bonnaterre, Tabl. Ichth., 1788,
p. 86, plate 94, fig. 386 (no locality).

Scatophagus argus Cuvier, Hist. Nat. Poiss., vol.
7, 1831, p. 103 (Ganges River, Malabar,

Pondichery, Bengal). — Richardson, Ichth.

China Japon, 1846, p. 245 (Canton). — Günther,

Cat. Fish. Brit. Mus., vol. 2, 1860, p. 58

(Singapore, Amboina, Ceram, Malacca,

U. S. N. M., No. 83877.

1312

Albatross Collection (2572). Length
224 to 354 mm. 4 examples.

U. S. N. M., No. 83967.

Albatross Collection (). Length
200 to 270 mm. 4 examples.

U. S. N. M., No. 84522.

Albatross Collection (2568). Length
270 to 310 mm. 3 examples.

155

Genus Scatophagus Cuvier.

Scatophagus Cuvier, Hist. Nat. Poiss., vol. 7, 1831, p. 103. Type Chaetodon argus Linnaeus, designated by Jordan and Evermann, Genera of Fishes, pt. 1, 1917, p. 136. (versus Scatophaga Meigen 1802 in Diptera.)

Cacodoxus Cantor, Journ. Asiatic Soc. Bengal, (Cat. Malay. Fishes), vol. 18, pt. 1, 1849, p. 1145. Type Chaetodon argus Linnaeus (virtually as Cacodoxus Cantor proposed to replace Scatophagus Cuvier).

(Prenes Gistel, Naturges. Thier., 1848, p. X. Type Chaetodon argus Linnaeus, virtually, as Prenes Gistel proposed to replace Scatophagus Cuvier.)
Body greatly compressed, elevated, nearly cuboid. Snout moderate, broad. Mouth terminal, small, transverse. Palate toothless. Preopercle entire. Air bladder simple. Pyloric appendages ^{about 20.} ~~innumerable~~. Scales very small. Soft dorsal scale. Dorsal fins 2, joined at bases, spines 10 to 12 and recumbent one in front directed forward, ^{rays 16 to 19.} anal spines 4, ^{rays 14 to 16.}

1313

Coryphaenoides guentheri (Vaillant)

Macrurus guentheri Vaillant, Expéd.
Sci. Travailleur et Talisman, Poiss.,
p. 386, 1888 (on materials listed below).

Macrurus guentheri Collett, Rés. Camp.
Sci. Monaco, vol. 10, p. 80, pl. 3, fig. 10,
1896 (north of Graciosa, Azores, 1850
meters). — Garman, Mem. Mus.

Comp. Zool., vol. 24, p. 396, 1899 (reference).
— Murray and Hort, Depths of the
Ocean, p. 397, 1912 (Faroe & Shetland
Channel). — Roule, Rés. Camp. Sci.
Monaco, vol. 5-2, p. 79, 1919 (west of
São Miguel; between São Miguel and
Terceira; 1482 to 1919 meters).

Macrurus (Macrurus) guentheri Brauer,
Deutsch. Tiefsee Exped. Valdivia, vol.
15, p. 389, 1906 (reference).

Coryphaenoides guentheri Gilbert and Hubbs,
Proc. U. S. Nat. Mus., vol. 51, p. 144, 1916
(reference).

Macrurus sclerorhynchus (not
Valenciennes) Günther, Rep. Voy.
Challenger, vol. 22, p. 133, pl. 32,
fig. 6, 1887 (90 miles south east Cape
St. Vincent, Canaries, 1090 fathoms).

Macrurus holotrachys (not Günther)
Vaillant, Expéd. Sci. Travailleur et
Talisman, Poiss., p. 241, pl. 22, fig. 3,
1888 (type locality: coasts of Morocco,
2115 to 2200 meters).

1315

Coryphaenoides habetatus (Gilbert)

Macrourus habetatus Gilbert, Bull. U. S. Fish Comm., vol. 23, pt. 2, p. 671, fig. 262, 1903 (1905) (type locality: off southern Oahu, 299 to 323 fathoms).

Macrurus (Macrurus) habetatus Brauer, Deutsch. Tiefsee Exped. Valdivia, vol. 15, p. 389, 1906 (reference).

Lionurus habetatus Gilbert and Hubbs, Proc. U. S. Nat. Mus., vol. 51, p. 146, 1916 (reference).

Coryphaenoides habetatus Fowler, Mem. Bishop Mus., vol. 10, p. 86, 1928 (compiled).

Depth $5\frac{7}{8}$; head $4\frac{3}{4}$, width 2.
Snout $4\frac{1}{3}$ in head; eye 3, greatly exceeds snout or interorbital; preoral profile vertical; length $1\frac{1}{4}$ in eye; maxillary reaches $\frac{1}{3}$ in eye, length from front end $2\frac{7}{8}$ in head; mandibular barbel not now made out

(mandible damaged), said $\frac{1}{4}$ of $\frac{13}{16}$ orbit; teeth in villiform bands in jaws, 6 transversely above with outer row slightly enlarged, 3 or 4 transversely below though all finely and uniformly villiform; interorbital $3\frac{2}{3}$ in head, low, concave. Gill rakers 2 + 9 short spinescent tubercles on second arch, $\frac{1}{3}$ of gill filaments, which $\frac{1}{3}$ of eye.

Scales 116 in lateral line to end of broken tail; 11 above, 19 below, 24 predorsal forward to front of snout, of which 18 forward till opposite hind eye edge. Scales with 3 diverging wide set rows of spinules; last of which extend behind hind scale edge; circuli large, complete.

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Family Scatophagidae

Body subrhomboid, deep. Caudal peduncle short. Eye moderate. Jaws robust, ^{not protractile}. Teeth only in jaws, ^{setiform}, tricuspid. Preopercle without spine. Scales uniformly small, ctenoid. Lateral line complete, concurrent with back. Gill rakers few, short. Pseudobranchiae present. Branchiostegals 6. Post temporal firmly joined with skull. Vertebral 24, of which 12 ^{or 13} caudal. Dorsals well marked. Soft dorsal and anal higher than spinous fins. Caudal with 14 divided, ^{truncate} rays. Pectoral short.

One genus in the Indo-Australasian region. Allied with the Chaetodontidae in the solidly joined post temporal, these fishes differ in the complete lateral line, unarmed head and contrasted dorsal fins.

D. II, 12 — 100, second simple ray with row of antrorse denticles along front edge, length $1\frac{1}{4}$ in head, interdorsal space $2\frac{4}{5}$; A. 114; fin height 3; pectoral rays I, 23, fin $1\frac{2}{3}$ in head; ventral rays I, 7, fin long as head with first ray extended in long filament.

Uniform brown. Under surface of head, mandible, breast and belly blackish brown. Iris dark or neutral black. Inside mouth pale, also inside gill opening. About 10 rather irregular dark or dusky transverse streaks or bars, posterior more distinct, variously complete. Fins brownish, anal dusky marginally.

Hawaiian Islands. A small

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small. Uniform silvery, darker
above. Length 560 mm.

(Hutton.)

This species does not appear to have
been noticed since described and has
been omitted from New Zealand lists.

Bleeker framed a distinct genus
for it, especially on account of its
increased soft dorsal and anal rays
and small scales.

Hutton says of it:

"This description is from a stuffed
specimen belonging to W. J. L. Travers.
Esq., F. L. S., of Wellington, who kindly
sent it to me for description. He
informs me that several years ago
he saw other specimens of this fish
on the shores of Massacre Bay."

species, known chiefly by its
coloration with dark cross bars
on the tail.

U. S. N. M., no. 51608.

In 209 to 323 fathoms.
Albatross Collection (3925). Length
122 mm.

152

Toxotes squamosus Hutton.

Toxotes squamosus Hutton, Ann. Mag. Nat. Hist. London, vol. 16, series 4, 1875, p. 313. Cook Straits, New Zealand.

Depth $2\frac{1}{3}$; head nearly 4. Snout equals interorbital. Eye $3\frac{1}{2}$ in head. Mouth reaches opposite eye center. Teeth in jaws cardiform, outer row in premaxillary larger; each palatine with single row, none on vomer. Opercle, preopercle and maxillary scale, margins smooth. Scales 85 in lateral line, 11 above, 18 below. Dorsals and anals covered with scales. Ventral with pointed axillary scale II, V, 23; A, III, 23, first ray longest with fin suddenly contracting behind then uniformly short. Caudal deeply forked, lobes equal pectoral. Pectoral long and pointed. Ventral

Coryphaenoides hextii (Alcock)

1319

Macrurus hextii Alcock, Ann. Mag. Nat. Hist., ser. 6, vol. 2, p. 299, 1890 (type locality: lat. $11^{\circ}12'47''$ N., long. $74^{\circ}25'30''$ W., off Elicapeni Bank, Laccadive Sea, 1000 fathoms); ser. 6, vol. 10, p. 351, 1892 (station 122, 865 to 880 fathoms); Illustrat. Zool. Investigator, pt. 2, pl. 12, fig. 3, 1894; Journ. Asiatic Soc. Bengal, vol. 63, pt. 2, p. 126, 1894 ().

— Goode and Bean, Oceanic Ichth., p. 390, 1895 (reference). — Garman, Mem. Mus. Comp. Zool., vol. 24, p. 396, 1899 (reference).

Macrurus (Macrurus) hextii Alcock, Cat. Deep Sea Fishes Indian Mus., p. 113, 1899 (Andaman Sea, 360 to 1000 fathoms).

Macrurus (Macrurus) hextii Brauer, Deutsch. Tiefsee Exped. Valdivia, vol. 15, p. 389, 1906 (reference).

1320
Coryphaenoides hextii Gilbert and
Hubbs, Proc. U.S. Nat. Mus., vol. 51,
p. 144, 1916 (reference).

Coryphaenoides heyningeni (Weber)
Macurus heyningeni Weber, Siboga
Exped., vol. 57, p. 156, pl. 5, fig. 3,
 1913 (type locality: lat. $10^{\circ}48'6''$ S.,
 long. $123^{\circ}23'1''$ E., Timor Sea, 918 meters).

Coryphaenoides heyningeni Weber and
Beaufort, Fishes Indo Austral.
Archip., vol. 5, p. 34, fig. 7, 1929
 (type).

1322

Coryphaenoides hirundo (Collett)

Macurus hirundo Collett, Rés. Camp. Sci. Monaco, vol. 10, p. 72, pl. 2, figs. 8-8b, 1896 (type locality: between Pico and São Jorge, Azores, 1266 meters). — Garman, Mem. Mus. Comp.

Zool., vol. 24, p. 396, 1899 (reference). — Roule, Rés. Camp. Sci. Monaco, vol. 52, p. 80, 1910 (south of Pico; south east of Flores; near Maio; 55 miles north west of Fayal; 1300 to 1900 meters).

Macurus (Macurus) hirundo Brauer, Deutsch. Tiefsee Exped. Valdivia, vol. 15, p. 389, 1906 (reference).

Lionurus hirundo Gilbert and Hubbs, Proc. U. S. Nat. Mus., vol. 51, p. 146, 1916 (reference).

1323

Coryphaenoides holocentrus (Gilbert and Cramer)

macrurus holocentrus (Gilbert and Cramer,
Proc. U. S. Nat. Mus., vol. 19, p. 425,
pl. 43, 1897) (type locality: Hawaiian
Islands, 351 to 375 fathoms). —

Gilbert, Bull. U. S. Fish Comm., vol. 23,
pt. 2, p. 668, 1903 (1905) (off southern
Oahu, 308 to 322 fathoms).

Macrurus holocentrus (Garman, Mem.
Mus. Comp. Zool., vol. 24, p. 396, 1899
(reference)).

Macrurus (macrurus) holocentrus Brauer,
Deutsch. Tiefsee Exped. Valdivia, vol.
15, p. 389, 1906 (reference).

Lionurus holocentrus (Gilbert and Hubbs,
Proc. U. S. Nat. Mus., vol. 51, p. 146,
1916 (reference)).

Coryphaenoides holocentrus Fowler, Mem.
Bishop Mus., vol. 10, p. 86, 1928 (compiled).

Depth $5\frac{1}{5}$ to $5\frac{1}{4}$; head $3\frac{1}{2}$ to $4\frac{1}{8}$, width $1\frac{7}{8}$ to 2. Snout $3\frac{1}{2}$ to $3\frac{2}{3}$ in head; eye $3\frac{1}{2}$ to $3\frac{2}{3}$, equals snout, greater than interorbital; maxillary reaches $\frac{1}{3}$ in eye, length from front end 3 to $3\frac{1}{8}$ in head; mandibular barbel $2\frac{1}{4}$ to 3 in eye; teeth in villiform bands in jaws, in 4 or 5 irregular transverse rows; interorbital $4\frac{1}{5}$ to $5\frac{1}{2}$ in head, low, nearly level. Gill rakers 0 + 9, low spinescent tubercles on second arch, $\frac{1}{4}$ of gill filaments, which $\frac{1}{2}$ of eye.

Scales 80 (pockets) in lateral line to pseudocaudal; 11 above, 16? below, 35 predorsal forward to snout end of which 20 forward to hind eye edge. Scales with 10 or 11 parallel apical rows of spinules,

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Toxotes lorentzi Weber.

Toxotes lorentzi Weber, Zooten Leyden
Mus., vol. 32, no. 4, 1910, p. 232. Merauke,
Dutch South New Guinea.

~~Head 3; depth $2\frac{1}{4}$; D. V, 13 or 14; A.~~
Depth $2\frac{1}{4}$; head 3. Eye $3\frac{3}{4}$ to 4 in head.
Scales 46 in lateral line, 7 above, 13
below, D. V, 13 or 14; A. III, 15 or 16. Back
dark gray brown, pale to yellowish
below. Vertical fins dark. Paired fins
transparent, with dark dots. Length
115 mm. (Weber.)

last extending but slightly behind hind scale edge; circuli moderate, complete.

D. II, 11 or II, 10 — 68, second simple ray slender, with row of antrorse spinules along front edge, length $1\frac{1}{5}$ to $1\frac{1}{3}$ in head; interdorsal space $2\frac{1}{4}$ to $2\frac{1}{3}$; A. 75, fin nearly equals orbit; pectoral rays I, 20, fin $1\frac{3}{4}$ to $1\frac{4}{5}$ in head; ventral rays I, 7, fin $1\frac{2}{5}$.

Brown, more or less uniform. Iris grayish. Inside mouth pale. Branchiostegal region rather dark, though inside gill opening pale. Chest and belly dark neutral gray. Fins pale or light brownish.

Hawaiian Islands.

Toxotes carpentariensis Castelnau,

Proc. Linn. Soc. New South Wales, vol. 3,
1878, p. 47. Norman River, Queensland.

though very imperfectly noticed, may
apply to the present species. The
following sets forth the few items given
by Castelnau:

Snout less than $\frac{2}{3}$ of interorbital,
little more than orbit. Dorsal more
advanced than in Toxotes microlepis,
spines larger or $3\frac{3}{4}$ in depth, all slender,
6 in number and third and fourth longest;
dorsal rays 12. A. III, 16. Caudal forked.
Four broad transverse dark bands.

U. S. N. M., No. 47723.

In 375 fathoms.

Albatross Collection (3474). Length
160 mm. Paratype of macrourus holocentrus.

U. S. N. M., No. 47734.

In 351 fathoms.

Albatross Collection (3475). Length
168 mm. Type of macrourus holocentrus.

149

Toxotes microlepis Günther.

Toxotes microlepis Günther, Cat. Fish. Brit. Mus., vol. 2, 1860, p. 68. Siam. — Day, Fishes of India, pt. 1, 1875, p. 117, plate 30, fig. 1 (Sorangadi). — Bleeker, Atlas Ichth. Ind. Néerl., vol. 9, 1877, p. 2, plate (1) 363, fig. 1 (Sumatra and Borneo). — Day, Fauna British India, vol. 2, 1889, p. 22, fig. 9.

Depth 2, head $2\frac{3}{4}$. Eye $3\frac{1}{5}$ in head. Scales 40 to 42 in lateral line, 9 above, 15 below. D. V, 13 or 14; A. III, 17 or 18. Back with 3 or 4 large dark blotches, also dark band across caudal peduncle posteriorly and another at caudal base. Soft dorsal with 2 dark blotches. Anal broadly bordered darker. Length 130 mm. (Bleeker.)

Burma, Siam, East Indies.

1327

Coryphaenoides holotrachys (Günther)

Macrurus holotrachys Günther, Ann. Mag. Nat. Hist., Ser. 5, vol. 2, p. 24, 1878 (type locality: deep sea east of mouth of Rio de la Plata, 600 fathoms); Rep. Voy. Challenger, vol. 22, p. 136, pl. 28, fig. B, 1887 (type).

— Vaillant, Expéd. Sci. Travailleur et Talisman, Poiss., p. 241, pl. 22, fig. 3, 1888 (coasts of Morocco, 2115 to 2200 meters). — Collett, Rés. Camp. Sci. Monaco, vol. 10, p. 83, pl. 2, figs. 6-6b, 1896 (off Newfoundland, 1267 meters).

— Goode and Bean, Oceanic Ichth., p. 396, 1896 (compiled). — Garman, Mem. Mus. Comp. Zool., vol. 24, p. 396, 1899 (reference).

Macrurus holotrachys Jordan and Evermann, Bull. U. S. Nat. Mus., No. 47, pt. 3, p. 2582, 1898 (copied).

Macurus (Macurus) holotrachys

Brauer, Deutsch. Tiefsee Exped.

Valdivia, vol. 15, p. 389, 1906 (reference).

Coryphaenoides holotrachys Gilbert
and Hubbs, Proc. U. S. Nat. Mus.,
vol. 51, p. 144, 1916 (reference).

1329

Coryphaenoides hoskynii (Alcock)

Macrurus hoskynii Alcock, Ann. Mag. Nat. Hist., ser. 6, vol. 6, p. 214, Sep. 1890 (type locality: off Madras coast, lat. $18^{\circ}26'N$, long. $85^{\circ}24'E$, 1310 fathoms); Journ. Asiatic Soc. Bengal, vol. 43, pt. 2, p. 126, 1894; Illustrat. Zool. Investigator, pt. 2, pl. 9, fig. 4, 1894. — Goode and Bean, Oceanic Ichth., p. 390, 1895 (reference). — Garman, Mem. Mus. Comp. Zool., vol. 24, p. 396, 1899 (reference).

Macrurus (Macrurus) hoskynii Alcock, Cat. Deep Sea Fishes Indian Mus., p. 116, 1899 (Bengal Bay, 1310 fathoms).

Macrurus (Macrurus) hoskynii Brauer, Deutsch. Tiefsee Exped. Valdivia, vol. 15, p. 389, 1906 (reference).

Coryphaenoides hoskynii Gilbert and Habbe, Proc. U. S. Nat. Mus., vol. 51, p.

144, 1916 (reference); Bull. U. S.
Nat. Mus., no. 100, vol. 1, p. 410, 1920
(reference).

144 (reference)

1331

Coryphaenoides hyostomus (Smith and Radcliffe)

Macrourus hyostomus Smith and Radcliffe,
Proc. U. S. Nat. Mus., vol. 43, p. 121,
pl. 27, fig. 1, 1912 (type locality:
Lagenoy Gulf, Luzon, 560 fathoms).

Coryphaenoides hyostomus Gilbert and
Hubbs, Proc. U. S. Nat. Mus., vol. 51,
p. 144, 1916 (reference); Bull. U. S. Nat.
Mus., no. 100, vol. 1, p. 422, 1930 (type;
off Luzon; near Sibuko Bay, Borneo;
Buton Straits near Celebes; 365 to 560
fathoms). — Weber and Beaufort,
Fishes Indo Austral. Archip., vol.
5, p. 33, 1929 (compiled).

Depth $7\frac{1}{5}$ to end of broken tail; head
 $4\frac{2}{3}$, width $1\frac{4}{5}$. Snout to eye $3\frac{1}{8}$
in head; eye 5, $1\frac{4}{5}$ in snout, $1\frac{1}{2}$
in interorbital; orbit $4\frac{1}{2}$ in head,
 $1\frac{1}{3}$ in snout, $1\frac{1}{10}$ in interorbital;
maxillary reaches $\frac{1}{2}$ in eye, length
from front end $3\frac{1}{8}$ in head;
mandibular barbel $\frac{1}{2}$ of orbit;

teeth in villiform bands in jaws, of 5 or 6 irregular transverse series; interorbital $4\frac{2}{5}$ in head, level. Gill rakers 1+5. low spinescent tubercles on second arch, $\frac{1}{3}$ of gill filaments, which $1\frac{1}{2}$ in orbit.

Scales 97 (to end of broken tail) in lateral line; 5 above, 15 below, 34 predorsal of which 14 extend forward to occiput. Scales with 17 or 18 apical parallel series of slender denticles, last extending well beyond scale edge; circuli fine, complete.

D. II, 9-90, second simple ray with few low denticles along its front edge, long and filamentous, length $2\frac{2}{3}$ in combined head and body; interdorsal space long as eye;

Depth $1\frac{2}{5}$ to $1\frac{3}{4}$; head $2\frac{1}{3}$ to $3\frac{1}{5}$, width $1\frac{3}{4}$ to $1\frac{4}{5}$.
Snout $2\frac{3}{4}$ to $3\frac{1}{8}$ in head; eye $3\frac{1}{8}$ to $4\frac{2}{3}$, greater than snout in young to $1\frac{2}{3}$ in snout with age; maxillary $\frac{1}{2}$ to $\frac{3}{4}$ in snout, 4 to $4\frac{2}{3}$ in head; interorbital $2\frac{1}{4}$ to $2\frac{3}{4}$, broadly convex. Gill rakers 5 + 13, lanceolate, short, $\frac{1}{4}$ of gill filaments, which equal eye.

Tubes 85 to 104 in lateral line to caudal base, about 60 in young; 22 to 30 scales above lateral line, 46 to 60 below. Scales with a single basal radiating striae; apical denticles 20 to 55, and 6 or 7 series transverse; circuli fine.

D. $\overline{\text{X}}$ or $\overline{\text{XI}}$, 16, $\overline{\text{I}}$ to 18, $\overline{\text{I}}$, fourth spine $1\frac{2}{5}$ to $1\frac{3}{5}$ in head, third ray $1\frac{1}{4}$ to $1\frac{1}{3}$; A. $\overline{\text{IV}}$, 13, $\overline{\text{I}}$ to 15, $\overline{\text{I}}$, second spine $2\frac{7}{8}$ to $3\frac{1}{5}$, third ray $1\frac{1}{10}$ to $1\frac{2}{5}$; least depth of caudal peduncle $1\frac{7}{8}$ to $2\frac{2}{5}$; caudal truncate to slightly double concave behind, $1\frac{1}{8}$ to $1\frac{2}{3}$; pectoral $1\frac{1}{2}$ to 2; ventral $1\frac{1}{2}$ in head in

A. 101, fin height $3\frac{1}{5}$ in head;
 pectoral rays $\text{I}, 17$, fin $\frac{1}{2}$ in head;
 ventral rays $\text{I}, 7$, fin $\frac{1}{2}$.

Uniform brown. Lower surface
 of head paler than upper.
 Branchiostegal region dusky to
 blackish brown. Iris gray.
 Inside mouth and gill opening
 blackish brown. Fins dark to
 blackish brown.

East Indies, Philippines.

U. S. N. M., No. 72938. Atulayan Island
 (E.), S. 63° W., 4 miles (lat. ~~$13^{\circ} 37' 30''$~~ $13^{\circ} 37' 30''$ N.,
 long. $123^{\circ} 41' 09''$ E.), east coast Luzon.
 560 fathoms. June 18, 1909.
Albatross Collection (D. 5470).

Length 278 mm to end of broken
 caudal. Type of Macrourus hyostomus.

Kovara, Fische, pt. 2, 1865, p. 271 (Java).

— Von Martens, Preuss. Exped. Ost. Asien, 1876, p. 388 (Bangkok). — Meyer, Ann.

Soc. Esp. Hist. Nat. Madrid, vol. 14, 1885, p. 18 (North Celebes). — Elera, Cat. Fauna.

Filip., vol. 1, 1895, p. 490 (Luzon, Manila Bay, Cebu).

Scatophagus purpurascens Cuvier, l.c.

East Indies.

Scatophagus macromotus Bleeker, Nat.

Genees. Arch. Ned. Ind., deel 2, 1845, p. 520.

Batavia. (monstrosity.)

Xargus maculatus Gray, Cat. Fish. Grnow,^{vol. 2,} 1854, p. 65.

Scatophagus quadranus de Vis, Proc. Linn.

Soc. New South Wales, vol. 9, 1884 (1885), p. 455.

Queensland Coast.

Scatophagus brunneus Kent, Great Barrier Reef,

1873, p. 367. Queensland. (nomen nudum.)

Scatophagus chameleon Kent, l.c. Queensland.
(nomen nudum.)

Coryphaenoides ingolfi (Lütken)

Macrurus ingolfi Lütken, Dan. Ingolf Exped., Fishes, p. 27, 1898 (type locality: south of Iceland).

Macrurus (Macrurus) ingolfi Brauer, Deutsch. Tiefsee Exped. Valdivia, vol. 15, p. 389, 1906 (reference).

Macrourus ingolfi Jordan, Evermann, Clark, Rep. U. S. Comm. Fisher., pt. 2, p. 206, 1930 (reference).

Hymenocephalus ingolfi Garman, Mem. Mus. Comp. Zool., vol. 24, p. 395, 1899 (reference).

Coryphaenoides ingolfi Gilbert and Hubbs, Proc. U. S. Nat. Mus., vol. 51, p. 144, 1916 (reference).

1335

Coryphaenoides investigatoris (Alcock)

Macrurus investigatoris Alcock, Ann. Mag. Nat. Hist., ser. 6, vol. 4, p. 391, November 1889 (type locality: Andaman Sea all along Andaman Chain, 265 to 490 fathoms; Bengal Bay, 193 to 405 fathoms); ser. 6, vol. 8, p. 121, 1891 (Station 115, 188 to 220 fathoms; Station 120, 240 to 276 fathoms); ser. 6, vol. 10, p. 351, 1892 (Station 131, 410 fathoms); Illustrat. Zool. Investigator, pt. 1, pl. 3, fig. 4, 1892; Journ. Asiatic Soc. Bengal, vol. 63, pt. 2, p. 126, 1894 (J. — Goode and Bean, Oceanic Ichth., p. 390, 1895 (reference). — Garman,

Mem. Mus. Comp. Zool., vol. 24, p. 396, 1899 (reference).

Macrurus (Macrurus) investigatoris Alcock, Cat. Deep Sea Fishes Indian Mus., p. 109, 1899 (Bengal Bay; Andaman Sea; 193 to 490 fathoms). — Brauer, Deutsch. Tiefsee Exped. Valdivia, vol. 15, p. 260, (388), 1906 (west coast of Sumatra, 750

meters; north east coast of Africa, ¹³³⁶
628 to 823 meters).

Lionurus investigatoris (Gilbert and Hubbs,
Proc. U. S. Nat. Mus., vol. 56, p. 146, 1916
(reference)).

Depth 5; head 4, width 2. Snout to
eye $3\frac{1}{8}$ in head; eye $5\frac{1}{2}$, $1\frac{1}{2}$ in snout,
1 in interorbital; orbit $3\frac{1}{2}$ in head,
1 in snout; preoral length $4\frac{2}{3}$ in
head; maxillary reaches $\frac{1}{4}$ in orbit,
length from front end $3\frac{4}{5}$ in head;
mandibular barbel $2\frac{1}{2}$ in eye;
teeth minutely villiform, in rather
narrow bands of jaws in 4 or 5
irregular ^{series} transversely; interorbital $4\frac{1}{2}$
in head, low, slightly concave. Gill
rakers 2 + 9 low spiniferous tubercles
on second arch, $\frac{1}{4}$ of gill filaments,
which $1\frac{1}{2}$ in orbit.

Scales 84 in lateral line to pseudocaudal;
7 above, 14 below, 36 predorsal well forward
on snout of which 18 forward till

opposite hind eye edge. Scales with 7 to 10 parallel apical spinuliferous keels, spinules minute and last slightly project beyond scale edge; circuli moderate, complete.

D. II, 10 - 82, second simple ray pungent, with row of antrorse serrae along front edge, length $1\frac{1}{2}$ in head; interdorsal space $2\frac{1}{5}$; A. 84, fin height $4\frac{1}{2}$?; pectoral I, 18, fin $1\frac{9}{10}$ in head; ventral I, 8, fin $1\frac{3}{5}$.

Largely uniform umber or dull brown. Iris grayish. Inside mouth pale. Mandible below and branchiostegal region dark neutral gray to blackish. Chest, breast and belly neutral gray. Inside gill opening blackish brown, paler

Bull. Bur. Fisher., vol. 26, 1906 (1907), p.
32 (Cavite). — Evermann and Seale,
l.c., p. 97 (Bacon and San Fabian). —
Smith and Seale, Proc. Biol. Soc. Wash.,
vol. 19, 1906, p. 78 (Mindanao, ^{Cavite, Bacon}). — Jordan and
Richardson, Bull. Bur. Fisher., vol. 27, 1907
(1908), p. 268 (Manila and Iloilo).

Chaetodon piratalis Buchanan-Hamilton, Fishes
of Ganges, 1822, pp. 122, plate 372, 16, fig. 1.
Ganges River.

Chaetodon atramaculatus Bennett, Fishes of
Ceylon, 1834; plate 18. Ceylon.

Scatophagus bougainvillii Cuvier, Hist. Nat.
Poiss., vol. 7, 1831, p. 107. no locality. —
Richardson, Ichth. China Jap., 1846, p. 245-
(China).

Scatophagus ornatus Cuvier, l.c., p. 108, plate
180. Amboina (fresh water). — Richardson, l.c.
(China). — Günther, Cat. Fish. Brit. Mus.,
vol. 2, 1860, p. 57 (copied). — Kner, Reise.

below.

Bay of Bengal, Andaman Sea,
Eastern Indian Ocean.

U.S.N.M., No. 44420. Bengal Bay.
Investigator Collection. Length 170
mm.

p. 90 (New South Wales). — Hora, Mem. Asiat.
Soc. Bengal, vol. 6, 1844.
Cacodoxus argus Cantor, Journ. Asiat.

Soc. Bengal (Cat. Malay. Fish.), vol. 18^{1st.},
1847, p. 1145 (Pinang, Malay Peninsula,
Singapore). — Bleeker, Ned. Tijds. Dierk.,
vol. 2, 1865, p. 31 (Manila Bay).

Ephippus argus Bleeker, Atlas Ichth., vol. 9,
1877, p. 21, plate (1) 361, fig. 2 (Sumatra, Batu,
Lias, Pinang, Singapore, Bintang, Banka,
Java, Madura, Bali, Borneo, Celebes, Timor,
Batjan, Buru, Ceram, Amboina, Luzon).

— Jordan and Evermann, Proc. U. S. Nat. Mus.,
vol. 25, 1903, p. 356 (Suwata and Srian,
Formosa). — Düncker, Mitteil. Nat. Wiss.

Hamburg, band 21, 1903 (1904), p. 151 (Singapore,
luar River at Bandar Maharani; Kuala
Langat). — Fowler, Journ. Acad. Nat. Sci.

Phil., vol. 12, series 2, 1904, p. 544 (Padang).

— Jordan and Seale, Proc. U. S. Nat. Mus.,

vol. 28, 1905, p. 789 (Negros). — Jordan and Seale,

1339

Coryphaenoides latinasutus (Garman)

Macrurus latinasutus Garman, Mem.
Mus. Comp. Zool., vol. 24, p. 214 (397),
1899 (type locality: lat. $23^{\circ}59'N$, long.
 $108^{\circ}40'W$, Gulf of California, 995
fathoms).

Macrurus (Macrurus) latinasutus Brauer,
Deutsch. Tiefsee Exped. Valdivia, vol.
15, p. 389, 1906 (reference).

Macrourus latinasutus Jordan, Evermann,
Clark, Rep. U. S. Comm. Fisher., pt. 2,
p. 206, 1930 (reference).

Coryphaenoides latinasutus Gilbert
and Hubbs, Proc. U. S. Nat. Mus., vol.
51, p. 144, 1916 (reference).

1340

Coryphaenoides latirostratus (Garman)

Macrurus latirostratus Garman, Mem.
Mus. Comp. Zool., vol. 24, p. 211, pl. 48,
fig. 2, 1899 (type locality: lat. $7^{\circ}21'N$,
long. $79^{\circ}35'W$, 511 fathoms; off
western Colombia, 322 to 458 fathoms).

Macrurus latirostratus Jordan, Evermann,
Clark, Rep. U. S. Comm. Fisher., pt. 2,
p. 206, 1930 (reference).

Lionurus latirostratus Gilbert and Hubbs,
Proc. U. S. Nat. Mus., vol. 51, p. 146, 1916
(reference).

Depth $6\frac{1}{5}$ to $6\frac{3}{5}$; head $4\frac{7}{8}$ to 5, width
 $1\frac{7}{8}$ to $2\frac{1}{4}$. Snout $3\frac{1}{2}$ to $3\frac{7}{8}$ in head;
eye 3 to $3\frac{1}{5}$, $1\frac{1}{5}$ to $1\frac{1}{4}$ times snout,
 $1\frac{1}{2}$ to $1\frac{3}{5}$ times interorbital; preoral
length $3\frac{7}{8}$ to $4\frac{1}{4}$ in head; maxillary
reaches $\frac{1}{3}$ to $\frac{1}{2}$ in length, length
from front end $2\frac{4}{5}$ to $3\frac{1}{3}$ in head;
mandible barble $3\frac{1}{2}$ to $3\frac{4}{5}$ in eye;
teeth in villiform bands in jaws, 4 or

5 irregularly transversely, with outer upper row slightly enlarged; interorbital $4\frac{1}{8}$ to 5 in head, low, slightly depressed. Gill rakers 0 + 7 low spinescent tubercles on second arch, $\frac{1}{4}$ of gill filaments, which 2 in eye.

Scales (pockets) 92 to 100 in lateral line; 8 above, 14 below, 38 predorsal of which 17 forward opposite hind eye edge. Scales all very caducous, most all fallen; with 13 or 14 irregular somewhat parallel rows of spinules apically, last not extended beyond scale edge; circuli fine, more or less complete.

D. II, 10-100 to 130, second simple ray slender, front edge with row of small antrorse denticles,

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Toxotes chatareus (Buchanan-Hamilton).

Coius chatareus Buchanan-Hamilton,
Fishes of Ganges, 1822, pp. 101, 370, plate
14, fig. 34. Ganges mouths.

Toxotes chatareus Day, Fishes of India, pt. 1,
1875, p. 117, plate 29, fig. 6 (Srawaddi).

— Bleeker, Atlas Ichth. Ind. Néerl., vol. 9,
1877, p. 2, plate (1) 363, fig. 5 (Pinang,

Singapore, Borneo). — Klunzinger, Sitzs. Ber.
Akad. Wiss. Wien, band 80, heft 1, 1879, p.
364 (Queensland and Cleveland Bay). —

Day, Fauna British India, vol. 2, 1889, p. 23.

Toxotes jaculator (non Pallas) Cuvier, Hist.
Nat. Poiss., vol. 7, 1831, p. 234 (Malacca). —

Günther, Cat. Fish. Brit. Mus., vol. 2, 1860,
p. 67 (part). — Day, Fishes of Malabar,
1865, p. 37.

Toxotes jaculator var. malaccensis Cantor,

Journ. Asiatic Soc. Bengal (Cat. Malay. Fish.).

length $1\frac{1}{4}$ to $1\frac{7}{8}$ in head;
interdorsal space 2 to $2\frac{3}{5}$; A.
98 to 102, fin height $3\frac{3}{4}$?;
pectoral rays I, 20, fin $1\frac{4}{5}$ to 2
in head; ventral I, 10, fin 2 to
 $2\frac{1}{8}$, first ray ending in filament.

Dark brown, becoming neutral
gray to black on under surface
of head, breast and belly, also
opercle and branchiostegal region.
Iris dark gray. Inside mouth
brown. Inside gill opening
blackish brown. Fins all
brownish.

Gulf of Panama.

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Family Chaetodontidae.

Body strongly compressed, elevated, suborbicular in outline. Mouth small, protractile, terminal. Eyes moderate, lateral. Maxillary very short, variable, divided by longitudinal suture. Teeth brush like or setiform, often extremely long, in narrow bands in jaws; palate toothless. Gill membranes more or less joined to isthmus. Gill rakers very small. Pseudobranchiae very large. Branchiostegals 6 or 7. Vertebral 24, of which 14 caudal, anterior abbreviated. Scales moderate or small, finely ciliated or nearly smooth, cover body and head and densely over soft vertical fins. Lateral line present, arched like back but not reaching caudal fin. Dorsal single, continuous, rays sometimes filamentous. Anal

U. S. N. M., No. 57855. Lat. ¹³⁴³ $70^{\circ}21'$
N., long. $79^{\circ}35'$ W.

In 511 fathoms.

Albatross Collection (D. 3394).

Length 206 to 211 mm. 2 examples.

U. S. N. M., No. 91578.

March 2, 1888.

Albatross Collection (D. 2792).

Length 156 to 198 mm. 11 examples.

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like soft dorsal, with 3 or 4 spines.
Caudal usually truncate. Pectoral
small. Ventral thoracic, with spine
and 5 rays.

Carnivorous tropical reef fishes. Most
all are handsomely and brilliantly colored,
often with ornamental design. They
are active and graceful swimmers. The
young are quite unlike the adult - and
in the early or Thalichthys stage with
membranes developed as broad collars
or plates about the head and neck.

1344

Coryphaenoides lepturus Gill and Townsend
Macrurus lepturus Gill and Townsend,
Proc. Biol. Soc. Washington, vol. 11,
p. 233, 1897 (type locality: Bering
Sea south west of Pribilof
Islands, 1401 fathoms). — Garman,

Mem. Mus. Comp. Zool., vol. 24, p. 396,
1899 (reference).

Macrurus (Macrurus) lepturus Brauer,
Deutsch. Tiefsee Exped. Valdivia,
vol. 15, p. 389, 1915 (reference).

Macrourus lepturus Jordan and Evermann,
Bull. U. S. Nat. Mus., no. 47, pt. 3, p.
2584, 1898 (copied). — Gilbert and
Burke, Bull. Bur. Fisher., vol. 30,
p. 91, fig. 35, 1910 (1912) (off Yunaska
Island, Aleutians, 1130 to 1217 fathoms).

— Jordan, Evermann, Clark, Rep. U. S.
Comm. Fisher., pt. 2, p. 207, 1928
(1930) (compiled).

Coryphaenoides lepturus Gilbert and Hubbs, Proc. U. S. Nat. Mus., vol. 51, p. 144, 1916 (reference).

macrurus dorsalis Gill and ^{Joynt}~~Thompson~~, Proc. Biol. Soc. Washington, vol. 11, p. 233, 1897 (type locality: Bering Sea south west of Pribilof Islands).

Depth 7 to 8; head $5\frac{1}{2}$ to $5\frac{3}{5}$, width $2\frac{1}{8}$ to $2\frac{2}{3}$. Snout to eye $3\frac{1}{2}$ to $3\frac{4}{5}$ in head; eye $5\frac{1}{5}$ to $5\frac{1}{2}$, $1\frac{2}{5}$ to $1\frac{1}{2}$ in snout, $1\frac{2}{5}$ to $1\frac{1}{2}$ in interorbital; orbit $3\frac{7}{8}$ to $4\frac{1}{4}$ in head, 1 in snout, $1\frac{1}{10}$ to $1\frac{1}{5}$ in interorbital; maxillary reaches $\frac{3}{4}$ in orbit or to hind orbital edge, length from front end $2\frac{2}{5}$ to $2\frac{3}{4}$ in head; mandibular barbel $1\frac{1}{4}$ to $2\frac{3}{5}$ in eye; teeth in rather coarse villiform

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The following are young in the
Ichthyos stage which we have
been unable to identify specifically:

1 example. Basin Harbor. April 22,
1908. Length 14 mm.

1 example. Marabat Bay, Minolasag
Island. June 11, 1909. Length 10 mm.

1 example. Hogas Point, Pemay Island.
February 3, 1908. Length 11 mm.

1 example. Marinague Island at Santa
Cruz. April 23, 1905. Length 16 mm.

1 example. Tomindao anchorage. February 25,
1908. Length 18 mm.

2 examples. Varadero Bay, Mindoro.
July 23, 1908. Length 10 to 21 mm.

1 example. D. 5385. Philippines.
September 28, 1909. Length 20 mm.

1 example. D. 5129. Philippines.
Length 20 mm.

bands, in 6 to 8 irregular transverse rows; interorbital $3\frac{2}{3}$ to $3\frac{3}{4}$ in head, low, very slightly convex. Gill rakers $2 + 11$ low spinescent tubercles on second gill arch, $\frac{1}{4}$ of gill filaments which $\frac{1}{2}$ of orbit.

Scales 146 to end of broken tail; 10 above, 18 below, 60 predorsal of which 27 forward opposite hind eye edge. Scales with 4 to 10 nearly parallel apical spinuliferous ridges, last spinules not extended beyond hind edge of scale; circuli moderately fine, complete.

D. II, 12 or II, 13 - 120 to 122, second simple ray slender, pungent, front edge with series of antrorse serrae, length $\frac{1}{10}$ in head; interdorsal space

Analysis of the genera.

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a. Chaetodontinae. Preopercle unarmed;
scales rather large; young mostly with
Thalichthys stage.

b. Snout tubiform, elongated, produced.

c. Dorsal spines 9 to 11.

d. Dorsal spines 9.

Chelmo

dd. Dorsal spines 11.

Chelmonops

cc. Dorsal spines 12 or 13.

Forcipiger

bb. Snout conic, moderate or short and
not especially produced.

e. Dorsal spines not greatly elongated
or prolonged in flexible filaments.

f. Teeth rudimentary or absent;
dorsal spines 8 to 10.

Coradion

ff. Teeth well developed.

g. Dorsal spines 6 or 7; front dorsal
and anal rays prolonged.

Parachaetodon

gg. Dorsal spines 10 to 16.

5 to $5\frac{1}{3}$; A. 115 to 122, fin height $4\frac{1}{5}$ to $4\frac{4}{5}$; pectoral rays I, 20, fin $1\frac{1}{2}$ in head; ventral I, 7 or I, 8, fin $1\frac{1}{8}$ in head to $1\frac{1}{5}$ times head, first simple ray terminally filamentous.

Largely uniformly dark brown, where scales have fallen pockets all dark or dusky brown. Iris grayish. Gill opening edged blackish brown, also blackish inside. Inside mouth brown. Fins all darker, dusky or blackish.

North Pacific, Bering Sea.

180
h. Scales large, 30 to 50.

Chaetodon

hh. Scales small, more than 60.

i. Scales 60 to 75.

f. Teeth small; dorsal rays
24 to 26.

Hemitaurichthys

ff. Teeth long, large, strong;
dorsal rays 17. Microcanthus

ii. Scales 88 to 90. Vinculum

ll. Dorsal spines elongated, and at
least one prolonged in filament;
front of head with bony protuberances;
scales moderate.

Hemiochus

aa. Pomacanthinae. Preopercle armed
with very strong spine; vertical limb
of preopercle with 10 to 30 small teeth;
interopercle with 1 to 4 strong spines;
dorsal with 14 graduated spines, last
longest.

Holacanthus

U.S.N.M., no. 3405.

1348

~~Albatross~~ Albatross Collection (D. 4765).
Length 525 mm. In very poor
condition.

U.S.N.M., no. 48767. ~~no. 48768~~.
Lat. $54^{\circ}54'N.$, long. $168^{\circ}59'W.$

In 1401 fathoms. August 12, 1895.

Albatross Collection (D. 3604).

Length 545 mm. Type of macrurus
lepturus.

U.S.N.M., no. 48768. Lat. 54°
 $54'N.$, long. $168^{\circ}59'W.$

In 1401 fathoms. August 12, 1895.

Albatross Collection (D. 3604).

Length 630 mm. to end of broken tail.

Type of macrurus dorsalis.

181

Genus Chelmo Oken.

Chelmo Oken, Isis, 1817, p. 1792. On Cuvier,
Regne Animal, vol. 2, 1817, p. 334. Type
Chaetodon rostratus Linnaeus, designated
by Bleeker, Arch. Neerl. Sci. Nat., vol. 11,
1876, p. 303.

Chelmon Cuvier, Hist. Nat. Poiss., vol. 7, 1831,
p. 165. Type Chaetodon rostratus Linnaeus,
designated by Bleeker, l.c.

Known by the greatly reduced dorsal
spines, but 9 in number, in combination with
its long snout.

♂

1349

Coryphaenoides leptolepis Günther

Coryphaenoides leptolepis Günther,
Ann. Mag. Nat. Hist., ser. 4, vol. 20,
p. 441, 1877 (type locality: coasts
of Brazil [not Japan and mid Pacific]).

— Gilbert and Hubbs, Proc. U. S. Nat.
Mus., vol. 51, p. 143, 1916 (reference).

Macrurus leptolepis Günther, Rep. Voy.
Challenger, vol. 22, p. 144, 1887 (off
Pernambuco, 350 fathoms).

Macrurus (Chalinura) leptolepis Brauer,
Deutsch. Tiefsee Exped. Valdivia, vol.
15, p. 390, 1906 (reference).

Chalinura leptolepis Goode and Bean,
Oceanic Ichth., p. 414, 1895 (copied). —

Garman, Mem. Mus. Comp. Zool., vol.
24, p. 395, 1899 (reference).

Brazil. Very close to
Coryphaenoides simulus (Goode
and Bean) - and though Günther
gives "D. 19" his figure shows
D. 11, 8. It also shows a much
longer ventral filament.

Platax raynaldi Cuvier, l.c., p. 164. West
coast of Ceylon, Pondichery, Malacca.

Platax chrenbergii Cuvier, l.c., p. 165.

Lohaja, Massana, Ceylon, Mauritius. —

Richardson, Ichth. China Jap., 1846, p. 245
(China).

Platax blochii Cuvier, l.c., p. 167. Mauritius,
Pondichery, New Guinea.

Platax guttulatus Cuvier, l.c., p. 171, plate
186. Mauritius. (Young.)

{ Platax albipunctatus Rüppell, Atlas Reiss.
Nordl. Afr., Fisch., 1828, p. 69, plate 18, fig. 4.
Massana. (Young.)

Platax tevia (non Forshäl) Fowler and Bean,
Proc. U.S. Nat. Mus., vol. 62, 1922, p. 55
(Zamboanga).

1351

Coryphaenoides leucophaeus (Garman)

Macrurus leucophaeus Garman, Mem.
Mus. Comp. Zool., vol. 24, p. 201 (396),
1899 (type locality: lat. $7^{\circ}9'45''N$,
long. $80^{\circ}50'W$, Gulf of Panama, 322
fathoms).

Macrurus (Macrurus) leucophaeus Brauer,
Deutsch. Tiefsee Exped. Valdivia,
vol. 15, p. 388, 1906 (reference).

Macrurus leucophaeus Jordan, Evermann,
Clark, Rep. U.S. Comm. Fisher., pt. 2,
p. 205, 1930 (reference).

Coryphaenoides leucophaeus Gilbert and
Hubbs, Proc. U.S. Nat. Mus., vol. 51, p.
144, 1916 (reference).

1352

Coryphaenoides liocephalus (Günther)
Macrurus liocephalus Günther, Rep.
Voy. Challenger, vol. 22, p. 145, pl. 38,
fig. A., 1887 (type locality: near
Yokohama, Japan, 1875 fathoms;
Mid Pacific, 2050 fathoms).

Macrurus (Chalinura) liocephalus Brauer,
Deutsch. Tiefsee Exped. Valdivia, vol.
15, p. 390, 1906 (reference).

Chalinura liocephala Goode and Bean,
Oceanic Ichth., p. 412, 1895 (reference).
— Garman, Mem. Mus. Comp. Zool.,
vol. 24, p. 395, 1899 (reference). —

Jordan and Snyder, Annot. Zool. Japon.,
vol. 3, p. 119, 1901 (reference). —
Jordan, Tanaka, Snyder, Journ. College
Sci. Tokyo, vol. 33, p. 415, 1913 (reference).

Coryphaenoides liocephalus Gilbert and
Hubbs, Proc. U. S. Nat. Mus., vol. 51, p.
143, 1916 (reference).

Coryphaenoides leptolepis (part)

1353

Günther, Ann. Mag. Nat. Hist., ser.
4, vol. 20, p. 441, 1877 (Japan; mid
Pacific [not from coasts of Brazil]).

1354

Coryphaenoides liraticeps (Garman)

Macrurus liraticeps Garman, Mem.
Mus. Comp. Zool., vol. 24, p. 196 (396),
pl. 45, figs. 1-16, 1899 (type locality:
lat. $0^{\circ}4'N.$, long. $90^{\circ}24'30''W.$, off James
Island, Galapagos, 885 fathoms).

Macrurus (Macrurus) liraticeps
Brauer, Deutsch. Tiefsee Exped.
Valdivia, vol. 15, p. 389, 1906 (reference).

Coryphaenoides liraticeps Gilbert and
Hubbs, Proc. U. S. Nat. Mus., vol. 51, p.
144, 1916 (reference).

1355

Coryphaenoides longicirrus (Gilbert)

Macrurus longicirrus Gilbert, Bull. U. S. Fish Comm., vol. 23, pt. 2, p. 672, fig. 263, 1903 (1905) (type locality: off Kauai Island, 1000 to 1314 fathoms).

Macrurus (Macrurus) longicirrus Brauer, Deutsch. Tiefsee Exped. Valdivia, vol. 15, p. 389, 1906 (reference).

Coryphaenoides longicirrus Gilbert and Hubbs, Proc. U. S. Nat. Mus., vol. 10, p. 86, 1928 (reference). — Fowler, Mem. Bishop Mus., vol. 10, p. 86, 1928 (compiled).

Depth $5\frac{1}{4}$; head $4\frac{1}{2}$, width $1\frac{4}{5}$. Snout $3\frac{1}{2}$ in head; eye $5\frac{2}{5}$, $1\frac{1}{2}$ in snout, $1\frac{3}{4}$ in interorbital; maxillary reaches $\frac{1}{2}$ in eye, length from front end $2\frac{3}{4}$ in head; mandibular barbel $1\frac{1}{8}$ in eye; teeth in jaws in 5 or 6 irregular rows, outer upper row enlarged, long and well spaced; interorbital $3\frac{3}{4}$, broadly convex. Gill rakers $2+6$, low

1356

spinescent tubercles, ^{on second arch} $2\frac{1}{2}$ in gill filaments, which $1\frac{3}{4}$ in eye.

Scales 126 in lateral line; 8 above, 16 below, 50 predorsal of which 25 forward till opposite hind eye edge. Scales with 16 to 18 parallel apical spinulose ridges, last spinules not extended beyond hind scale edge; circuli fine, complete.

D. II, 10 - 97, second snipe ray slender, its front edge minutely spinescent, length $1\frac{1}{8}$ in head; interdorsal space $3\frac{1}{3}$; A. 98, fin height $4\frac{1}{3}$?; pectoral rays I, 20, fin $1\frac{7}{8}$ in head; ventral rays I, ~~10~~, fin $1\frac{1}{8}$ times head, first branched ray $2\frac{2}{3}$ in filament.

Dark blackish brown, where scales have fallen scale edges all darker to blackish. Iris dark or

(muscat). — Day, Fauna. British India, vol. 2, 1889, p. 183. — Sauvage, Hist. nat. Madagascar, Poiss., 1891, p. 272. — Elera, Cat. Fauna. Filip., vol. 1, 1895, p. 515 (Cebu). — Steindachner, Abhandl. Senckenberg. Ges., band 25, 1900, p. 421 (Ternate). — Fowler, Proc. Acad. Nat. Sci. Phila., 1903, p. 161 (Zanzibar). — Fowler, Journ. Acad. Nat. Sci. Phila., vol. 12 (2), 1904, p. 544 (Padang). — Wiley, Flora Zeylon, vol. 2, 1909, p. 51, fig. (minutely dead leaf). — Filgmayr, Abhandl. K. Bayer. Akad. Wiss., band 26, abth. 6, 1913, p. 13 (Oman). — Fowler, Proc. Acad. Nat. Sci. Phila., 1923, p. 42 (Madagascar).

Chaetodon pentacanthus Lacépède, Hist. nat. Poiss., vol. 4, 1802, pp. 454, 473, plate 11, fig. 2.

Le grand Océan (Indo-Pacific)

Platax pentacanthus Cuvier, Hist. nat. Poiss., vol. 7, 1831, p. 176 (Mauritius).

→ Platax gainardi Cuvier, l.c., p. 162. New Guinea.

1357

dusky. Mouth brown inside, lips
scarcely lighter than surrounding
lower surface of head. Inside
gill opening gray or livid gray
blue to dusky. Fins more or less
dark, first dorsal and paired
fins nearly blackish.

Hawaiian Islands.

U. S. N. M., No. 51592.

Albatross Collection (D. 2763).

Length 59.0 mm. Type of macrourus
longirostris.

Philippines, China). — Playfair, Fishes of
Zanzibar, 1866, p. 64 (Aden and Zanzibar).
— Klunzinger, Verh. Zool. Bot. Ges. Wien,
band 20, 1870, p. 792 (Koseir). — Day, Fishes
of India, pt. 2, 1876, p. 236, plate 51, fig. 5
(Andamans). — Peters, Monatsb. Akad. Wiss.
Berlin, 1876, p. 440 (Mauritius). — Castelnau,
Proc. Linn. Soc. New South Wales, vol. 2, 1877, p.
235 (Cardwell). — Bleeker, Atlas Ichth.,
vol. 9, 1877, p. 74, plate 379 (17), fig. 1, plate
380 (18), figs. 2-3 (Sumatra, Batu, Nias,
Pinang, Singapore, Bintang, Banka, Cooa,
Java, Madura, Bawean, Bali, Celebes, Sangi,
Solor, Ternate, Batjan, Buru, Obi major,
Ceram, Ambonia, Goram, Waigiu, New
Guinea, Philippines). — Klunzinger, Fisch.
Roth. Meer., 1884, p. 118. — Meyer, Ann.
Soc. Esp. Hist. Nat. Madrid, vol. 14, 1885, p.
25 (Manado, Celebes, Cebu, Mysore). —
Boulenger, Proc. Zool. Soc. London, 1887, p. 661

1358

Coryphaenoides longifilis Günther
Coryphaenoides longifilis Günther, Ann.
Mag. Nat. Hist., Ser. 4, vol. 20, p. 439,
1877 (type locality: south of Yeddo,
565 fathoms).

Macrurus longifilis Günther, Rep. Voy.
Challenger, vol. 22, p. 151, pl. 35, 1887
(type). — Goode and Bean, Oceanic
Ichth., p. 417, pl. , fig. 347, 1895
(copied).

Moseleya longifilis Jordan and Snyder,
Ann. Zool. Japan., vol. 3, p. 119, 1901
(reference).

Dollosa longifilis Jordan, Tanaka, Snyder,
Journ. College Sci., Tokyo, vol. 33, p. 411,
1913 (compiled).

Hematomus longifilis Gilbert and Hubbs,
Proc. U. S. Nat. Mus., vol. 51, p. 143, 1916
(reference).

1359

Coryphaenoides loricatus (Garman)

Macrurus loricatus Garman, Mem. Mus. Comp. Zool., vol. 24, p. 208 (397), ~~1899~~ pl. 47, figs. 2-2b, 1899 (type locality: lat. $0^{\circ}18'40''N.$, long. $90^{\circ}34'W.$ ^{327 fathoms;} off Galapagos, 331 fathoms).

Macrurus (Macrurus) loricatus Brauer, Deutsch. Tiefsee Exped. Valdivia, vol. 15, p. 388, 1906 (reference).

Lionurus loricatus Gilbert and Hubbs, Proc. U. S. Nat. Mus., vol. 51, p. 146, 1916 (reference).

Depth $6\frac{1}{4}$; head 5, width $1\frac{4}{5}$. Snout $3\frac{1}{3}$ in head; eye $3\frac{1}{3}$, equals snout, $1\frac{1}{4}$ times interorbital; preoral profile slightly concave, oblique, length $3\frac{1}{2}$ in head; maxillary reaches $\frac{1}{2}$ in eye, length from front end $3\frac{1}{8}$ in head; mandibular barbel $\frac{1}{2}$ of orbit; teeth in villiform bands in jaws, 4 or 5 irregular rows; interorbital 4 in

head, low, nearly level. Gill rakers $1 + 7$, low spinose tubercles on second arch, $\frac{1}{4}$ of gill filaments which $2\frac{1}{2}$ in orbit.

Scales 132 in lateral line; 10 above, 17 below, 36 predorsal of which 22 forward opposite hind orbital edge. Scales with irregular parallel rows of spinules, last not extended beyond scale edge; circuli moderate, complete.

D. II, 10 - 110, second simple ray slender, with row of antrorse denticles along front edge (ends of rays broken); interdorsal space 2 in head; A. 118, fin height $4\frac{1}{4}$; pectoral rays I, 15, fin $1\frac{3}{4}$ in head; ventral rays I, 9, fin $2\frac{3}{5}$.

Uniform dark brown largely. Iris dark slate, under surface

100

Chaetodon vespertilio Bloch, natura Aust.

Fische., vol. 3, 1787, p. 67, plate 199. East

Indies. — Gmelin, Syst. Nat. Linn., 1789,

p. 1257 (India). — Walbaum, Arted. Pisc.,

vol. 3, 1792, p. 426 (copied). — Forster,

Faun. Indica, 1795, p. 15. — Schneider,

Syst. Ichth. Bloch, 1801, p. 228 (Trangrebar).

— Lacépède, Hist. Nat. Poiss., vol. 4, 1802,

pp. 459, 490 (Japan).

Chaetodon vespertilio Bonnaterre, Tabl. Ichth.,
1788, p. 81, plate 95, fig. 388.

Platax vespertilio Cuvier, Règne Animal, vol. 2,
1817, p. 334. — Rüppell, Atlas Reise Nordl. Afr.,

Fische., 1828, p. 43 (Red Sea). — Bennett, Fishes

of Ceylon, 1830, plate 5 (Ceylon). — Cantor,

Journ. Asiat. Soc. Bengal (Nat. Malay. Fish.),

vol. 18, 1849, p. 1148 (Malay Peninsula, Pinang,

Singapore). — Peters, Arch. Naturg., 1855, p. 247

(Mozambique). — Günther, Cat. Fish. Brit. Mus.,

vol. 2, 1861, p. 489 (Amboina, Singapore, Pinang,

1361
of head and branchiostegal region
neutral black, also chest, breast
and belly. Inside gill opening
blackish or dark brown above,
whitish or pale below. Fins
brownish.

Galapagos Islands.

U. S. N. W., No. 57859. Lat. $0^{\circ}19' N.$,
Long. $90^{\circ}3'41'' W.$
In 331 fathoms.
Albatross Collection (D. 3410). Length
241 mm.

140 (Society and Samoan Islands). —
Meyer, Ann. Soc. Esp. Hist. Nat. Madrid,
vol. 14, 1885, p. 25 (Macassar, Celebes). —
Kent, Great Barrier Reef, 1893, p. 290
(Bowen to Thursday Island, Queensland).
— Fowler, Journ. Acad. Nat. Sci. Phila.,
vol. 12, series 2, 1904, p. 544 (Padang). — Jordan
and Seale, Bull. Bur. Fisher., vol. 26, 1906
(1907), p. 32 (Dolo). — Evermann and Seale,
I. C., p. 97 (Jolo). — Seale and Bean, Proc.
U. S. Nat. Mus., vol. 33, 1907, p. 246
(Zamboanga). — Jordan and Richardson,
Bull. Bur. Fisher., vol. 27, 1907 (1908), p. 268
(Ticao and Cagayancillo). — Seale, Philippine
Journ. Sci., vol. 5, no 4, 1910, p. 283 (Sandakan,
Borneo). — Weber, Siboga Exped., band 65,
1913, p. 313 (Menado, West Ceram, Tual).
— Fowler, Copeia, no. 58, June 18, 1918, p. 64
(Philippines).

Coryphaenoides macrolophus (Alcock) ¹³⁶²

Macrurus macrolophus Alcock, Ann.
Mag. Nat. Hist., ser. 6, vol. 4, p. 394,
November 1889 (type locality: Andaman
Sea south east by south of Ross Island,
265 fathoms); ser. 6, vol. 8, p. 121,
Aug. 1891 (Station 120, 240 to 276
fathoms); ser. 6, vol. 10, p. 351, fig.,
Nov. 1892 (Station 131, 410 fathoms); Journ.
Asiatic Soc. Bengal, vol. 63, pt. 2, p. 126,
1894 (); Illustrat. Zool.
Investigator, pt. 2, pl. 12, fig. 1, 1894.

Cat. Deep Sea Fishes Indian Mus.,
p. 115, 1899 (Bengal Bay; Andaman Sea;
Arabian Sea; 240 to 410 fathoms). —

Macrurus (Macrurus) macrolophus Alcock
Brauer, Deutsch. Tiefsee Exped. Valdivia,
vol. 15, p. 266 (389), 1906 (off East Africa,
628 to 1362 meters).

Coryphaenoides macrolophus Gilbert and
Hubbs, Proc. U. S. Nat. Mus., vol. 57, p. 144, 1916
(reference); Bull. U. S. Nat. Mus., no. 100, vol. 1,
p. 417, 1920 (compiled).

1363

Macrurus lophotes Alcock, Ann. Mag.
Nat. Hist., ser. 6, vol. 4, p. 393, 1889
(type locality: Bay of Bengal, the
"Swatch", 285 to 405 fathoms); Journ.
Asiatic Soc. Bengal, vol. 43, pt. 2, p.
126, 1894 (); Illustrat.
Zool. Investigator, vol. 1, pl. 3, fig. 2, 1894.

— Goode and Bean, Oceanic Ichth., p. 390,
1895 (copied). — Garman, Mem. Mus.
Comp. Zool., vol. 24, p. 396, 1899 (reference).

Macrurus (Macrurus) lophotes Alcock,
Cat. Deep Sea Fishes Indian Mus., p.
116, 1899 (Bengal Bay, 285 to 405 fathoms).

1364

Coryphaenoides marginatus Steindachner
and Döderlein

Coryphaenoides marginatus Steindachner
and Döderlein, Denks. Akad. Wiss.
Wien, math.-naturw. Kl., vol. 53, p.
284, 1887 (type locality: Tokyo).

— Jordan and Snyder, Annot. Zool.
Japon., vol. 3, p. 120, 1901 (reference).

— Jordan, Tanaka, Snyder, Journ. College
Sci., Tokyo, vol. 33, p. 415, 1913 (compiled).

— Gilbert and Hubbs, Proc. U.S. Nat.
Mus., vol. 51, p. (143) 164, 1917 (Eastern
Sea; Suruga Gulf; 148 to 440 fathoms).

↑
Macrurus marginatus Döderlein,
in Steindachner and Döderlein,
Denks. Akad. Wiss. Wien, math.-
nat. Kl., vol. 53, p. 284, 1887 (name
in synonymy).

maximum carapace 15 to 14 in eye, length
from front end $3\frac{3}{4}$ to $3\frac{7}{8}$ in head;

1364

Coryphaenoides marginatus Steindachner
and Döderlein

Coryphaenoides marginatus Steindachner
and Döderlein, Denks. Akad. Wiss.
Wien, math.-naturw. Kl., vol. 53, p.
284, 1887 (type locality: Tokyo).

— Jordan and Snyder, Annot. Zool.
Japon., vol. 3, p. 120, 1901 (reference).
— Jordan, Tanaka, Snyder, Journ. College
Sci., Tokyo, vol. 33, p. 415, 1913 (compiled).

— Gilbert and Hubbs, Proc. U.S. Nat.
Mus., vol. 51, p. (143) 164, 1917 (Eastern
Sea; Suruga Gulf; 148 to 440 fathoms).

Depth 6 to $6\frac{3}{4}$; head $4\frac{7}{8}$ to $5\frac{1}{4}$,
width $1\frac{7}{8}$ to $2\frac{1}{6}$. Snout to eye 3 to
 $3\frac{1}{8}$ in head; eye $4\frac{1}{4}$, $1\frac{1}{4}$ to $1\frac{1}{3}$
in snout, 1 to $1\frac{1}{8}$ times interorbital;
orbit $3\frac{1}{2}$ to $3\frac{3}{5}$ in head, 1 to $1\frac{1}{8}$ in
snout, $1\frac{1}{5}$ to $1\frac{1}{4}$ times interorbital;
maxillary reaches $\frac{1}{5}$ to $\frac{1}{4}$ in eye, length
from front end $3\frac{3}{4}$ to $3\frac{7}{8}$ in head;

preoral length $1\frac{2}{3}$ to $1\frac{3}{4}$ in orbit;
mandibular barbel 2 to $2\frac{1}{4}$ in eye;
teeth finely villiform, in 4 or 5
irregular series transversely;
interorbital $4\frac{1}{5}$ to $4\frac{1}{2}$ in head,
low and nearly level forward.

Gill rakers 1 + 8 low spinescent
tubercles on second arch, $\frac{1}{3}$ of
gill filaments, which $\frac{1}{2}$ of eye.

Scales (pockets) 93 in lateral
line to pseudocaudal; 8 or 9 above,
18 below, 42 predorsal of which
^{forward} 20 to occiput which opposite hind
edge of orbit. Scales with 3 to 15
divergent spinuliferous keels, tips
of last spinules not extended
behind hind scale edge; circuli
moderate, more or less complete.

D. II, 9 - 70 to 90, second simple
ray pungent, prolonged in filament.

Platax orbicularis (Forskål).

Chaetodon orbicularis Forskål, Descript.

Animal., 1775, pp. xii, 59. Djedda, Red Sea.

— Gmelin, Syst. Nat. Lin., 1789, p. 1265 (Arabia). — Walbaum, Arted Pisc., vol. 3, 1792, p. 440 (on Forskål). — Schneider, Syst.

Ichth. Bloch, 1801, p. 231 (Arabia).

Chetodon orbicularis Bonmatere, Tabl. Ichth., 1788, p. 80 (Red Sea).

Acanthinion orbicularis Lacépède, Hist. Nat. Poiss., vol. 4, 1803, pp. 499, 500 (Arabia).

Platax orbicularis Rüppell, Atlas Reis. Nord. Afr. Fische, 1828, p. 67, plate 18, fig. 3 (Red Sea).

— Cuvier, Hist. Nat. Poiss., vol. 7, 1831, p. 174 (Djedda). — Günther, Cat. Fish. Brit. Mus., vol. 2, 1860, p. 490 (Port Essington). —

Klunzinger, Verh. Zool. Bot. Ges. Wien, band 20, 1870, p. 793 (Kobeir). — Day, Fishes of

India, pt. 2, 1876, p. 218. — Günther,

Journ. Mus. Godeffroy, band 11, heft 5, 1876, p.

length 3 to $3\frac{3}{5}$ in entire fish and
 its front edge basally with row
 of small antrorse serrae;
 interdorsal space $4\frac{1}{4}$ in head;
 A. 90 to 95, fin height $3\frac{1}{8}$;
 pectoral rays I, 19 or I, 20, fin $1\frac{2}{3}$
 to $1\frac{4}{5}$ in head; ventral rays
I, 7 or I, 8, fin $1\frac{3}{5}$ to $1\frac{2}{3}$.

Brown, head more or less
 pale or even whitish below. Edge
 of gill opening dark or dusky
 and inside blackish brown.
 Inside mouth dusky. Iris gray
 to whitish. Fins brown, with
 more or less dusky.

Japan.

Possibly Platax novemaculeatus
 McCulloch is an extreme variation of
 'Biol. Res. Fish. Endeavour, vol. 4, pt. 4,
 1916, p. 188, plate 55, fig. 1. Off Bowen,
Queensland, in 12 to 35 fathoms.

the present species. It is surely with the
 same physiognomy. The presence of 9 dorsal
 spines may not be specific, as Platax
bataviensis Bleeker was supposed to differ
 from Platax primatus in having 7 dorsal
 spines, or 2 more than in the latter.

U.S. N. M., no. 77265.

1367

Albatross Collection (D. 5067). Length
160 to 355 mm. 3 examples.

U.S. N. M., no. 77266.

Albatross Collection (D. 5066). Length
347 mm.

U.S. N. M., no. 77267.

Albatross Collection (D. 5059). Length
225 to 355 mm. 5 examples.

U.S. N. M., no. 77268.

Albatross Collection (D. 5060). Length
353 mm.

32702 U.S.N.M. Indian Archipelago.
 Roy. Museum of Leiden. Length 243 mm.

43901 U.S.N.M. Mauritius. Colonel
 Nicholas Pike. Length 110 to 123 mm.
 6 examples.

52498 U.S.N.M. Vanua. Bureau of
 Fisheries. Length 138 mm. As Platex
orbicularis.

65982 U.S.N.M. Bora Bora, Society
 Islands. Length 38 mm. As Platex
orbicularis.

72586 U.S.N.M. Java. Messrs. Bryant
 and Palmer. Length 193 to 208 mm.
 2 examples. As ~~Platex~~ orbicularis

U.S.N.M., No. 77269.

1368

Albatross Collection (D. 4909). Length
222 to 270 mm. 5 examples.

U.S.N.M., No. 77270.

Albatross Collection (D. 5056). Length
281 mm.

U.S.N.M., No. 77271.

Albatross Collection (D. 4915). Length
265 to 293 mm. 2 examples.

U.S.N.M., No. 77272.

Albatross Collection (D. 4911). Length 290
mm.

A 1370. Basa Island, Gulf of Boni, Celebes. December 17, 1909. Length 273 mm. Dusky bar from front of dorsal through shoulder to pectoral base and another from nape down through eye. Fins more or less yellowish, dorsal and anal with blackish vertical edges. Caudal tip yellow, with broad submarginal blackish bar. Pectoral bright yellow, except basally. Ventrals largely black.

A 863. Limbe Strait, Celebes. November 10, 1909. Length 321 mm.

5064. Sandakan, Borneo. February 29, 1908. Length 170 mm.

U. S. N. W., no. 77273.

1369

Albatross Collection (D. 5072). Length
327 mm.

U. S. N. W., no. 77274.

Albatross Collection (D. 4912). Length
280 mm.

U. S. N. W., no. 77275.

Albatross Collection (D. 4919). Length
218 mm.

U. S. N. W., no. 77276.

Albatross Collection (D. 5065). Length
80 to 120 mm. 5 examples.

8401. Giant River, Port Dupon,
Leyte Island. March 16, 1909. Length
190 mm.

A 482 and A 483. Lampingan Island.
September 11, 1909. Length 190 to 260 mm.
Broken orange stripe before dorsal to
snout, in smaller example follows only
on nape, with spot or two on snout and
forehead.

1 example [1666]. Murulabo Island.
June 13, 1909. Length 35 mm.

9354. Murcielago Bay, Mindanao.
April 21, 1909. Length 185 mm.

7255 and 7256. Port Matalvi, Luzon.
November 23, 1908. Length 315 to 368 mm.
3 examples [721].

8476. Raga Island. April 1, 1909. Length
205 mm.

8478. River at Port Dupon, Leyte Island.
March 17, 1909. Length 75 mm.

U. S. N. M., No. 77277.

In 434 fathoms. August 17, 1906.
Albatross Collection (D. 4908). Length
190 to 233 mm. 2 examples.

8959. Between Paron Point and Jesus
Point, Luzon. June 21, 1909. Length 345 mm.

8094. Burias Island, Alimango Bay.
March 5, 1909. Length 190 mm.

A583. Busbur Point, Siassi. September 20,
1909. Length 145 mm. Hind caudal edge
banded white.

1 example. Cebu market. August 27, 1909.
Length 40 mm.

21653. Cebu market. August 28, 1909.
Length 35 to 65 mm. 2 examples.

9376. Cebu market. August 29, 1909.
Length 138 mm.

17892 and 17893. Cebu market. September
5, 1909. Length 53 to 58 mm.

{ 14187 to 14189. Cebu market. August 24,
1909. Length 44 to 70 mm.

A1543. Soc Can Island. January 7, 1910.
Length 365 mm.

1371

Coryphaenoides mediterraneus (Giglioli)

Chalinura mediterranea Giglioli,
Zool. Anzeiger, vol. 16, p. 344, 1893
(type locality: lat. $41^{\circ}23'N$, long.
 $7^{\circ}8'54''E$; lat. $41^{\circ}18'42''N$, long. 6°
 $54'2''E$; mediterranean; 2805 to
2904 meters). — Garman, mem.

Mus. Comp. Zool., vol. 24, p. 395, 1899
(reference).

Macrurus (Chalinura) mediterranea
Brauer, Deutsch. Tiefsee Exped.
Valdivia, vol. 15, p. 390, 1916 (reference).

Coryphaenoides mediterranea Gilbert
and Hubbs, Proc. U. S. Nat. Mus., vol.
51, p. 143, 1916 (reference).

Coryphaenoides microps (Smith and Radcliffe)

Macrourus microps Smith and Radcliffe,
Proc. U. S. Nat. Mus., vol. 43, p. 116, pl.
25, fig. 2, 1912 (type locality: Atulayan
Island, Eastern Luzon, in 560 fathoms;
off northern Luzon, 220 fathoms).

Coryphaenoides microps Gilbert and Hubbs,
Proc. U. S. Nat. Mus., vol. 51, p. 144, 1915
(reference); Bull. U. S. Nat. Mus.,
no. 100, vol. 1, p. 418, 1920 (types).

Depth $4\frac{3}{4}$; head $4\frac{3}{4}$, width $2\frac{1}{8}$.
Snout to eye $3\frac{2}{5}$ in head; eye $7\frac{1}{5}$,
 $2\frac{1}{8}$ in snout, $1\frac{2}{3}$ in interorbital;
orbit 6 in head, $1\frac{2}{3}$ in snout, $1\frac{2}{5}$
in interorbital; maxillary reaches
opposite front eye edge, length to
front end of maxillary $3\frac{1}{3}$ in head;
mandibular barbel $1\frac{1}{5}$ in eye; teeth
in villiform bands in jaws, of 5 to
7 irregular rows transversely;
interorbital $4\frac{1}{2}$ in head, low, convex.
Gill rakers 1 + 8 low spinescent tubercles.

on second arch, $\frac{1}{3}$ of gill filaments, which $1\frac{1}{3}$ of eye.

Scales 80 in lateral line to pseudocaudal; 9 above, 17 below, 16 predorsal forward to occiput.

Scales with 13 to 18 apical parallel spinuliferous ridges, last spinules passing behind hind scale edge; circuli rather fine, complete.

D. II, 9 - 51, second simple ray long, slender, filamentous, with few weak denticles along front edge basally, length almost $\frac{1}{2}$ entire combined head and body to base of pseudocaudal; interdorsal space 5 in head; A. 70, fin height 3; pseudocaudal length 3; pectoral rays I, 18, fin $1\frac{4}{7}$ in head; ventral rays I, 6, fin $2\frac{1}{6}$.

7898. ^{Maricao} ~~Musilak~~ Bay. January 30, 1909.
Length 435 mm.

1229. Opol, Mindanao. August 4, 1909.
Length 197 mm.

5904. Polloc, Mindanao. May 22, 1908.
Length 190 mm.

A 743. Sipadan Island. September 28, 1909.
Length 421 mm. Olive with overshad of
yellow. No crossbars except slightly darker
shade from angle of gill opening downward
through pectoral base. Fins bright yellow
terminally except entirely black ventrals.
Dorsal with vertical edge blackish.
Caudal dusky at tip. Anal with blackish
front extending horizontally across fin
somewhat broader than pupil, vertical

Brown. Head rather pale.
Iris gray. Inside mouth brown.
Inside gill opening dusky. Fins
all more or less blackish brown.
Philippines.

U. S. N. M., no. 72933. Hermanos
Island (N.), N. 86° E., 16.75 miles
(lat. 18° 34' 15" N., long. 121° 51' 15" E.),
off northern Luzon. In 224 fathoms.
November 12, 1908. Albatross
Collection (D. 5325). Length 420 mm.

8163 and 8154. Alibijiban Island,
Ragay Gulf, Luzon. March 6, 1909.
Length 203 to 256 mm. Dusky silver,
without dusky or blackish bars.
Fins fading to olive yellow. Vertical
edge of dorsal, caudal tip, entire
anal edge, ventrals and pectoral bases
dark, almost black.

8797. Butamanan Island. June 12, 1909. Length 170 mm.

5363. Cebu market. April 30, 1908. Length 115 mm.

11761. ~~Iloilo~~ ^{Iloilo} market. January 2, 1908. Length 55 mm.

5303. Iloilo, Panay. March 28, 1908.
Length 465 mm.

A493 and A494. Lampinigan Island.
September 11, 1907. Length 235 to 258 mm.
4512 and 4513, 10520 and 10521. Manila market.
December 12, 1907. Length 73 to 110 mm.

6150 Mansalay, Mindoro. June 4, 1908.
Length 369 mm.

1375

Coryphaenoides murrayi Günther

Coryphaenoides murrayi Günther, Ann. Mag. Nat. Hist., ser. 5, vol. 2, p. 26, 1878 (type locality: deep sea east of New Zealand, 1000 fathoms). —

Garman, Mem. Mus. Comp. Zool., vol. 24, p. 395, 1899 (reference). — Gilbert and Hubbs, Proc. U. S. Nat. Mus., vol. 51, p. 143, 1916 (reference).

Macrurus murrayi Günther, Rep. Voy. Challenger, vol. 22, p. 146, pl. 34, fig. A, 1887 (types).

Macrurus (Chalinura) murrayi Branner, Deutsch. Tiefsee Exped. Valdivia, vol. 15, p. 390, 1906 (reference). — Murray and Hjort, Depths of the Ocean, p. 398, 1912 (lat. $35^{\circ}36'N$, long. $8^{\circ}25'W$, 1258 fathoms; lat. $50^{\circ}22'N$, long. $11^{\circ}44'W$, 983 fathoms).

1376

Chalinura murrayi Goode and Bean,
Oceanic Ichth., p. 412, 1895 (reference).
— Waite, Rec. Canterbury Mus., vol. 1,
no. 1, p. 17, April 25, 1907 (reference).

1377

Coryphaenoides nasutus Günther

Coryphaenoides nasutus Günther,
Ann. Mag. Nat. Hist., ser. 4, vol. 20, p.
440, 1877 (type locality: south of
Yeddo, Japan). — Gilbert and Hubbs,

Proc. U. S. Nat. Mus., vol. 51, p. (144) 168
(Bungo Channel, Ki Channel, south
west of Suruga Gulf; south coast of
Hokkaido; Suruga Gulf; east coast
Hondo; Sagami Bay).

Macrurus nasutus Günther, Rep. Voy.
Challenger, vol. 22, p. 132, pl. 30, fig. B,
1887 (south of Yeddo, 565 fathoms;
off Imoshima, 345 fathoms). —

Alcock, Ann. Mag. Nat. Hist., ser. 6,
vol. 8, p. 121, 1891 (Laccadive Sea, 738
fathoms). — Goode and Bean, Oceanic
Ichth., p. 390, 1895 (reference). —

German, Mem. Mus. Comp. Zool., vol. 24,
p. 396, 1899 (reference). — Gilbert and Hubbs,
Bull. U. S. Nat. Mus., no. 100, vol. 1, p. 410, 1920

(reference).

1378

Macrurus (Macrurus) nasutus Alcock,
Cat. Deep Sea Fishes Indian Mus., p.
111, 1899 (Andaman Sea, 490 fathoms;
Arabian Sea, 738 fathoms). — Brauer,

Deutsch. Tiefsee Exped. Valdivia, vol. 15,
p. 389, 1906 (reference).

Macrourus nasutus Jordan and Snyder,
Annot. Zool. Japon., vol. 3, p. 120, 1901
(reference). — Franz, Abhandl. Kon.
Bayer. Akad. Wiss., vol. 4, Suppl.
band 1, p. 26, 1910 (Liburatsubo). —

Jordan, Tanaka, Snyder, Journ. College
Sci. Tokyo, vol. 33, p. 417, 1913 (compiled).

Macrurus brevirostris Alcock, Ann. Mag.
Nat. Hist., ser. 6, vol. 4, p. 393, 1889
(type locality: Andaman Sea $7\frac{1}{2}$ miles
east of North Cingue Island, 490 fathoms);
Journ. Asiatic Soc. Bengal, vol. 63, pt. 2,
p. 127, 1894 (Illustrat. Zool.

1379

Investigator, pt. 2, pl. 13, fig. 3, 1894.

— Goode and Bean, Oceanic Ichth.,
p. 390, 1895 (reference). — Garman, Mem.
Mus. Comp. Zool., vol. 24, p. 396, 1899
(reference).

Macrurus (Macrurus) brevirostris Brauer,
Deutsch. Tiefsee Exped. Valdivia, vol.
15, p. 203 (389), 1906 (east coast of
Africa, 1019 to 1289 meters).

Lionurus brevirostris Gilbert and Hubbs,
Proc. U. S. Nat. Mus., vol. 51, p. 146, 1916
(reference).

Depth $6\frac{1}{4}$ to 8; head $4\frac{1}{2}$ to $4\frac{2}{3}$, width
 $2\frac{1}{8}$ to $2\frac{1}{5}$. Snout to eye $2\frac{7}{8}$ to 3 in
head; eye $4\frac{3}{4}$ to $5\frac{1}{8}$, $1\frac{1}{2}$ to $1\frac{2}{3}$ in
snout, 1 to $1\frac{1}{8}$ times interorbital;
orbit $3\frac{1}{4}$ to 4 in head, 1 to $1\frac{1}{4}$ in snout,
 $1\frac{1}{5}$ to $1\frac{1}{4}$ times interorbital; maxillary
reaches $\frac{1}{4}$ to $\frac{1}{2}$ in eye, length from
front end $3\frac{1}{6}$ to $3\frac{1}{2}$ in head;
mandibular barbel $2\frac{2}{3}$ to 3 in eye;

teeth in villiform bands in jaws,
of 4 or 5 irregular series;
interorbital $4\frac{1}{2}$ to $5\frac{1}{8}$ in head,
low and nearly level in front.
Gill rakers $1+8$ low spinescent
tubercles on second arch, about $\frac{1}{3}$
gill filaments, which $\frac{1}{2}$ of eye.

Scales 140 in lateral line to
pseudocaudal; 7 or 8 above, 18 or 19
below, $4\frac{1}{2}$ to 45 predorsal. End of
snout with spinescent tubercle.

Scales with 15 to 22 parallel series
of long slender apical spines, last
ones extending behind hind scale
edge; circuli fine, not extended
apically.

D. II, 10 — 90 to 100, second simple
ray slender and ending in filament,
its front edge with row of antrorse
spinules, length 1 to $1\frac{1}{10}$ in head;

~~23004~~
~~33158~~
~~33273~~
~~33307 (M)~~
~~33314 (M)~~
~~33315 (M)~~
~~33367 (M)~~
~~33375~~
~~33437~~

~~33316 (M)~~
~~33376~~

~~33413~~
~~33518~~
~~33566~~
~~33583~~

~~35470~~
~~35480~~
~~35516 (M)~~

~~35532~~

~~33583~~

~~38154~~
~~38158 (M)~~

~~38155 (M)~~

~~39241~~
~~39243~~
~~39246~~

~~44619~~

132
 125
 87-135 = 5
 158

~~45782 (M)~~
~~45783 (M)~~
~~45784 (M)~~
~~45785~~
~~45786 (M)~~
~~45790 (M)~~
~~45791 (M)~~
~~45792~~
~~45793 (M)~~
~~45794~~
~~45787~~
~~45788~~
~~45789~~

45844

74337

1845, 4.520. Bataria.

Arch. Red. Ind. (Japoy. Batar.) vol. 2,

Euphorbia melanocephala Bletzer, Aut. Venezuela.

1381

interdorsal space $1\frac{1}{3}$ to $1\frac{2}{5}$; A.
100 to 114, fin height $4\frac{1}{2}$; pectoral
rays I, 19, length 2 to $2\frac{1}{8}$ in head;
ventral I, 9, fin $2\frac{1}{2}$ to $2\frac{4}{5}$.

Largely uniform brownish, edge
of gill opening dusky. Iris pale
or light brown to gray. Inside
mouth - gray. Inside - gill opening
blackish. Fins brownish to dusky.

Indian Ocean, Japan.

edge beyond blackish.

5038. Vitambi wharf. February 27, 1908.
Length 154 mm.

4609. ~~Surigao~~ ^{Sinaga} Island. September 21, 1909.
Length 257 mm.

6002. Zamboanga. May 27, 1908. Length
400 mm.

A1371. Basa Island, Gulf of Boni, Celebes.
December 17, 1909. Length 331 mm. Dusky bar
from nape through eye. No shoulder bar.
Caudal not tipped yellow, dusky edge
narrow. Fins without bright yellow.

A950. Dodepo and Tasjogo Islands.
November 16, 1909. Length 157 mm.

U. S. N. M., No. 56389.

Albatross Collection (D. 3696). Length
270 to 380 mm. 4 examples.

U. S. N. M., No. 56390.

Albatross Collection (D. 3721). Length
386 to 444 mm. 2 examples.

U. S. N. M., No. 56391.

Albatross Collection (D.). Length
208? mm.

U. S. N. M., No. 56392.

Albatross Collection (D. 3699). Length
407 mm.

Red Sea, Zanzibar, India, East Indies, China, Japan, Phillipines,

Melanesia, Micronesia.

U. S. N. M., No. 56393.

1383

May 10, 1900.

Albatross Collection (D. 3711). Length
340 mm.

U. S. N. M., No. 77251.

Albatross Collection (D. 3931).

Length 237 mm.

Albatross Collection (D. 3933).

Length 245 mm.

Albatross Collection (D. 3934).

Len

Length 270 mm.

Albatross Collection (D. 3935)

Length 297 mm.

D. V, 36, 1 or 37, 1, fifth spine I $\frac{3}{5}$ in head to $2\frac{3}{5}$ in combined head and body in young, second branched ray I to 3; A. III, 25, 1 to 27, 1, third spine $2\frac{1}{5}$ to $2\frac{4}{5}$ in head, second ray I $\frac{1}{3}$ in combined head and body in young, I $\frac{1}{3}$ in head in adult; caudal truncate in young, hind edge little concave with age, $2\frac{7}{8}$ to $3\frac{1}{2}$ in combined head and body; least depth of caudal peduncle 2 to $2\frac{1}{8}$ in head; pectoral I $\frac{1}{3}$ to I $\frac{1}{2}$; ventral I $\frac{5}{6}$ to $2\frac{4}{5}$ in combined head and body.

Brownish generally, little paler below, and whole body with pale turquoise to heliotrope purple reflections. Broad brown band wide as eye, from occiput to breast. Second broad brown band, little broader than first, from spinous dorsal until close behind ventral base. Sometimes traces of obscure brown band on tail close before caudal peduncle. Bands all rather obsolete or indistinct with age. Fins all pale brownish, hind edges of soft vertical fins usually edged with dark brown, borders variably broad or narrow and with age less distinctly defined from paler general color of fins. Pectorals pale. Ventrals dusky to blackish. Iris brownish.

Albatross Collection (D. 3936)

1384

Length 248 mm.

Albatross Collection (D. 4972).

In 440 fathoms. August 30, 1906.

Length 157 to 260 mm. 5 examples.

U. S. N. M., No. 77253.

Albatross Collection (D. 5045). Length
310 mm.

U. S. N. M., No. 77254.

In 544 fathoms. August 31, 1906.

Albatross Collection (D. 4977). Length
233 to 252 mm. 2 examples.

U. S. N. M., No. 77255.

Albatross Collection (D. 4971). Length
288 mm.

Depth I $1/10$ to I $1/8$; head 3, width I $7/8$ to 2. Snout I $4/5$ to 2; eye 3 $1/8$ to 4 $1/5$, I $2/5$ to 2 $1/4$ in snout, I $1/10$ to I $2/3$ in interorbital; teeth in 8 to 10 irregular series in jaws, forming broad bands, only outer or outer 2 series tridentate and these with lateral cusps small, low and inconspicuous, all other teeth slender and simple conic points; maxillary not reaching eye, only opposite hind nostril, 3 $1/3$ to 3 $3/5$ in head; interorbital 2 $4/5$ to 3, broadly convex. Gill rakers 9 + 10, short, strong, tubercles.

Scales 67 to 69 in lateral line to caudal base; tubes 45 to 57 in lateral line to caudal base; 20 to 22 scales above arch of lateral line to soft dorsal origin, 47 to 50 scales below to anal origin. Scales with 1 to 6 basal radiating striae; no apical denticles; circuli moderately fine.

U. S. N. M., No. 77256.

Albatross Collection (D. 3938).

~~At~~

Length 368 mm.

Albatross Collection (D. 3939).

Length 377 mm.

Albatross Collection (D. 3940).

Length 280 mm.

Albatross Collection (D. 3941).

Length 315 mm.

Albatross Collection (D. 4973).

Length 260 mm.

to $I \frac{1}{2}$; ventral $I \frac{1}{5}$ to $3 \frac{1}{3}$ in combined head and body.

Brownish generally, little paler on ventral surface of head and belly.

In young general color more whitish and with silvered reflections, especially on lower side. Also broad deeper brown band nearly wide as eye, from occiput to breast, includes eye in its course. Second band usually much paler, from dorsal spines to include pectoral base and space immediately behind ventral base. Sometimes obscure third band includes soft dorsal posteriorly and most of anal. With age most all vertical bands obsolete or indistinct. Vertical fins largely like body color. Pectorals little paler and ventrals dusky to neutral brown, mostly dark in contrast. Iris more or less brownish.

Red Sea, Zanzibar, Mozambique, Mauritius, Reunion, Madagascar, Seychelles, India, East Indies, China, Phillipines, Queensland, Polynesia.

U. S. N. M., No. 77257.

Albatross Collection (D. 4388). Length
382 mm.

U. S. N. M., No. 77258.

Albatross Collection (D. 3891). Length
300 mm.

U. S. N. M., No. 77259.

Albatross Collection (D. 4321).

Albatross Collection (D. 4322). Length 242 mm.

Albatross Collection (D. 5061). Length 222 mm.

Length 139 mm.

Depth I to I $\frac{1}{8}$; slightly greater than body in very young; head 3 to 3 $\frac{1}{2}$, width I $\frac{2}{5}$ to I $\frac{4}{5}$. Snout 2 $\frac{2}{5}$ to 2 $\frac{4}{5}$; eye 2 $\frac{7}{8}$ to 4 $\frac{1}{2}$, I $\frac{1}{8}$ to I $\frac{4}{5}$ in snout, I $\frac{1}{8}$ to I $\frac{7}{8}$ in interorbital; teeth in broad bands in jaws, in about 8 irregular series, outer 3 or 4 series tridentate and others simple and conic; maxillary reaches opposite eye, 3 $\frac{1}{5}$ to 3 $\frac{2}{5}$ in head; interorbital broadly convex, 2 $\frac{1}{6}$ to 2 $\frac{1}{3}$. Gill rakers 2 + 7, short, strong, conic.

Scales 76 to 80 in lateral line to caudal base; tubes 50 to 75 in lateral line to caudal base; 24 or 25 scales above lateral line at top of arch to origin of soft dorsal, 44 to 46 below to anal origin. Scales with 3 or 4 basal radiating striae; apical denticles 22 to 30, with 5 or 6 transverse series of basal elements; circuli fine.

D. V, 32, 1 or 33, 1, fifth spine I $\frac{1}{5}$ to 2 in head, second ray nearly equals combined head and body in young, 3 $\frac{2}{3}$ in same in adult; A. III, 25, 1 to 26, 1, third spine 2 to 2 $\frac{3}{4}$ in head, second branched ray I $\frac{3}{5}$ in combined head and body in young, 4 $\frac{1}{4}$ in same in adult; caudal slightly emarginate, hind edge double concave with age, 2 $\frac{2}{5}$ to 3 $\frac{1}{5}$; least depth of caudal peduncle 2 to 2 $\frac{1}{10}$ in head; pectoral I $\frac{1}{4}$

U. S. N. M., No. 77260.
Albatross Collection (D. 3912).

1387

Albatross Collection (D. 3913). Length 275 mm.

Albatross Collection (D. 3914). Length 288 mm.

Albatross Collection (D. 3915). Length 283 mm.

U. S. N. M., No. 77261.
Albatross Collection (D. 4378). Length 310 mm.

Albatross Collection (D. 4379). Length 357 mm.

Length 340 mm.

189

Günther separates the nominal
Chelmon marginalis Richardson, though
states it is "perhaps a variety of
Ch. rostratus."

Quite likely - Chelmo pulcher Steindachner,
founded on an imperfect example in
the Museum of Comparative Zoology,
from Mauritius, is also this species,
Chelmon mülleri Klunzinger, as
figured and described by McCulloch,
does not appear to be different.

U. S. N. M., No. 77262.

1388

Albatross Collection (D. 3858).

Length 320^{05} mm.

Albatross Collection (D. 3860).

Length 265 mm.

Albatross Collection (D. 3861).

Length 292 mm.

Albatross Collection (D. 3865).

Length 320 mm.

Albatross Collection (D. 4957).

anal; last blackish, narrowest, at base of caudal, across caudal peduncle. Each of these bands with narrow inner darker border line and outer whiter one. Each row of body scales with median or marginal dark longitudinal line or stripe. 1st soft dorsal near base and medially black ocellus with white marginal ring. Soft dorsal and anal with narrow whitish border and brown submarginal narrow band. Fins otherwise all pale brownish, ventrals inside with anterior or front half deeper brown and leaving broad whitish inner or hind border.

East Africa, Mauritius, India, Malacca, East Indies, China, North Australia. Bleeker states that it is reported to ejaculate drops of water at insects near the edge of the water, as they may happen to alight on vegetation, but that he has been unable to confirm such claim during his long stay in the East Indies.

U.S.N.M., No. 77263.

1389

Albatross Collection (no number).
Length 130 mm.

U.S.N.M., No. 77264.
Albatross Collection (D. 3950).

Length 404 mm.
Albatross Collection (D. 3954).

Length 317 mm.
Albatross Collection (D. 3955).

Length 330 mm.

(197)

Depth $1\frac{1}{2}$ to $1\frac{3}{4}$; head $2\frac{1}{5}$ to $2\frac{1}{4}$, width 3 to 4. Snout $1\frac{4}{5}$ to $2\frac{1}{8}$ in head from snout tip; eye $3\frac{7}{8}$ to $4\frac{1}{2}$, $1\frac{7}{8}$ to $3\frac{1}{5}$ in snout, eyeballs inter-orbital; maxillary $\frac{2}{3}$ to $\frac{3}{4}$ to eye, $2\frac{1}{2}$ to $2\frac{2}{3}$ in head; interorbital $4\frac{1}{2}$ to 6, slightly convex. Gill rakers 3 + 7, rather flexible short points, about $\frac{1}{8}$ of gill filaments, which $1\frac{1}{4}$ in eye. Scales 43 to 48 between gill opening and caudal base; tubes 43 to 46 in lateral line to caudal base; 10 scales above lateral line, 21 to 24 below. Scales with 12 to 17 basal radiating striae; apical denticles 48 to 76, with 4 to 7 series of basal elements transverse; circuli fine. D. IX, 28, I or 29, I, last spine $1\frac{3}{8}$ to $2\frac{1}{4}$ in total head length, eighth ray, $1\frac{2}{5}$ to $1\frac{4}{5}$; A. III, 19, I or 20, I, last spine $2\frac{1}{8}$ to $2\frac{1}{3}$, fourth ray $1\frac{2}{3}$ to 2; least depth of caudal peduncle 4 to $4\frac{1}{2}$; caudal $2\frac{1}{5}$ to $2\frac{3}{5}$, hind edge broadly convex; pectoral $1\frac{3}{5}$ to $1\frac{7}{8}$; ventral $1\frac{1}{5}$ to $1\frac{1}{2}$.

Light brown, paler and with silvery reflections below. Five broad, brownish vertical bands; first through eye down to gill-opening but not at chest; second from first dorsal spine, before pectoral, to ventral origin; third from last dorsal spine to vent; fourth broadest, from base of soft dorsal to that of

Albatross Collection (D. 3957).

Length 355 mm.
Albatross Collection (D. 4289).

Length 310 mm.

→ Chelmon mülleri McCulloch, Biol. Res.

Endeavour, vol. 4, pt. 4, October 31, 1916,

p. 193, plate 55, fig. 2 (off Bowen, Queensland).

Chelmo pulcher Steindachner, Sitzb. Akad.

Wiss. Wien, band 79, ^{1st} 1874-75, p. 382.

Mauritius.

1391

Coryphaenoides obliquatus (Gilbert)

Macrurus obliquatus Gilbert, Bull. U. S. Fish Comm., vol. 23, pt. 2, p. 670, fig. 261, 1903 (1905) (type locality: off east coast of Kauai, 437 to 632 fathoms).

Macrurus (Macrurus) obliquatus Brauer, Deutsch. Tiefsee Exped. Valdivia, vol. 15, p. 389, 1906 (reference).

Lionurus obliquatus Gilbert and Hubbs, Proc. U. S. Nat. Mus., vol. 51, p. 146, 1916 (reference). — Fowler, Mem. Bishop Mus., vol. 10, p. 86, 1928 (compiled).

Depth ~~5 1/5~~ 8 1/5; head 5 1/3, width 2 1/4. Snout 3 1/3 in head; eye 3 1/3, 1 in snout; maxillary reaches 1/3 in eye, length from front end 2 4/5 in head; ^{mandibular} barbel (not shown in Gilbert's figure or mentioned in his description) 2 1/2 in eye; teeth rather long, close set, pointed and in comparatively wide bands in jaws, anteriorly off 6 to 8 ^{irregular} series;

interorbital $4\frac{1}{4}$ in head, low, depressed concavely forward. Gill rakers $1 + 8$ low spinous tubercles on second arch, $\frac{1}{3}$ of gill filaments, which $2\frac{4}{5}$ in eye.

Scales (pockets) 130 in lateral line to end of broken tail; 11? above, 22? below, 17? forward opposite front edge of orbit. Snout ends in small rounded spinous tubercle. Scales with 5 nearly parallel rows of small slender spinules apically, last of which scarcely extend behind scale edge; circuli moderate, entire.

D. II, 11—128?, second simple ray pungent, with several antrorse spines along its front edge basally, fin height (all rays broken off terminal) at least 2 in head;

1885, p. 17 (North Celebes). — Gorgona,
Ann. Soc. Espan. Hist. Nat. Madrid, vol.
15, 1865, p. 73 (Philippines). — Dimcher,
Mitteil. Nat. Mus. Hamburg, band 21,
1903 (1904), p. 147 (Singapore).

Chaetodon enceladus Shaw and Nodder,
Nat. Miscellany, vol. 2, 1791, plate 67.

India.

Chelmon marginalis Richardson, Ann.
Mag. Nat. Hist. London, vol. 10, 1842, p. 29.

Port Essington, Australia.

Chelmo marginalis Steindachner, Cat. Fish. Brit.
Mus., vol. 2, 1860, p. 36 (Swan River; type of
Chelmon marginalis Richardson). — Macleay,
Proc. Linn. Soc. New South Wales, vol. 2,
1878, p. 352 (Port Darwin). — Klunzinger,
Sitzb. Akad. Wiss. Wien, band 80, heft 1, 1879,
p. 361 (Port Darwin).

Chelmo mülleri Klunzinger, l.c. Australia.

interdorsal space $3\frac{1}{3}$; A. 130?,
 fin height $4\frac{1}{5}$?; pectoral ^{rays} I, 21,
 fin 2 in head; ventral rays I, 11
 (largely broken off).

Largely uniform brownish.
 Under half of head, breast and
 abdomen neutral black to brownish
 black. Iris dark gray. Inside
 mouth brown. Inside gill opening
 blackish brown. Fins dull brown.

Hawaiian Islands.

U. S. N. M., No. 51514.

In 437 to 632 fathoms.

Albatross Collection (D. 4141). Length
 131 mm to end of broken tail. Type
 of macrurus obliquatus. This example
 unsatisfactory, largely darkened and in
 rather poor condition.

Soc. Bengal (Cat. Malay. Fish.), vol. 18.
 pt. 1, 1849, p. 1140 (Singapore, Malacca).
 — Bleeker, Ned. Tijds. Dierk., deel 2, 1865,
 p. 31 (Manila Bay). — Jouan, Mem. Soc. Nat.
 Cherbourg, vol. 2, series 2, 1866, p. 123
 (Poulo-Condor, off Lower Cochin). — Peters,
 Monatsb. Akad. Wiss. Berlin, 1868, p. 257
 (coral reef at Paracili, Luzon). — Day,
 Fishes of India, pt. 1, 1875, p. 110, plate 20,
 fig. 3. — Castelnau, Res. Fish. Australia
 (Victoria Rec. Phila. Exhib.), 1875, p. —
 (Cape York, Queensland). — Bleeker, Atlas
 Ichth. Ind. Néerl., vol. 9, 1877, p. 22, plate
 (7) 369, fig. 2 (Sumatra, Singapore, Bintang,
 Banka, Biliton, Lepar, Bengend Islands,
 Java, Bawean, Celebes, Banda, Philippines).
 — Day, Fauna British India, vol. 2, 1889, p. 11,
 fig. 2. — Elera, Cat. Fauna Filip., vol. 1, 1895,
 p. 488 (Manila, Luzon, Navotas). —
Jordan and Seale, Bull. Bur. Fisher., vol. 26,

1394

Coryphaenoides orthogrammus (Smith and Radcliffe)

Macrourus orthogrammus Smith and Radcliffe, Proc. U. S. Nat. Mus., vol. 43, p. 123, pl. 27, fig. 3, 1912 (type locality: Gomomo Island, Dutch East Indies, 1262 fathoms).

Coryphaenoides orthogrammus Gilbert and Hubbs, Proc. U. S. Nat. Mus., vol. 51, p. 144, 1916 (reference); Bull. U. S. Nat. Mus., no. 100, vol. 1, p. 421, 1920 (type). — Weber and Beaufort, Fishes Indo Austral. Archip., vol. 5, p. 32, 1929 (compiled).

Depth $7\frac{3}{4}$; head $4\frac{3}{5}$, width $2\frac{3}{4}$. Snout $3\frac{2}{5}$ in head with median ridge above to its tip; eye $4\frac{1}{5}$, $1\frac{1}{8}$ in snout, $1\frac{1}{4}$ in interorbital; maxillary reaches $\frac{1}{2}$ in eye, length from front end $3\frac{1}{6}$ in head; mandibular barbel $\frac{1}{4}$ of eye; teeth minute, in villiform bands in jaws,

4 or 5 irregular rows transversely; interorbital $3\frac{1}{4}$ in head, low, nearly level. Gill rakers 0 + 6 low spinous tubercles on second arch, $\frac{1}{3}$ of gill filaments, which $2\frac{2}{5}$ in eye.

Scales (pockets) 125 to end of broken tail; 7 above, 15? below, 18 forward in predorsal till opposite hind eye edge. Scales with 5 parallel apical rows of long slender spines, giving body villose appearance, last ones extended well beyond hind scale edge; circuli coarse, few, complete.

D. II, 11 - 88, second simple ray (broken) $1\frac{3}{4}$? in head; interdorsal space $4\frac{1}{2}$; A. 100, fin height 4; pectoral rays I, 21, fin $1\frac{3}{4}$; ventral ^{rays} I, 9, fin $1\frac{1}{2}$ in head, first ray

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Chelmo rostratus (Linnaeus).

Chaetodon rostratus Linnaeus, Syst. Nat., ed. 10, 1758, p. 273. East Indies. — Linnaeus, l.c., ed. 12, 1766, p. 462. — Bloch, Naturg. Rursl. Fische, band 3, 1787, p. 78, plate 202, fig. 1 (East Indies). — Gmelin, Syst. Nat. Lin., 1789, p. 1244 (India). — Walbaum, Arted. Pisc., vol. 3, 1792, p. 423 (on Linnaeus). — Forster, Fauna Indica, 1795, p. 15. — Blumenbach, Handb. Naturg., 1799, p. 275. — Schneider, Syst. Ichth. Bloch, 1801, p. 221 (East Indies). — Lacépède, Hist. Nat. Poiss., vol. 4, 1802, pp. 457, 486 (Batavia). — Cuvier, Hist. Nat. Poiss., vol. 7, 1831, p. 66 (Java).

Chaetodon rostratus Bonnaterre, Tabl. Ichth., 1788, p. 83, plate 45, fig. 170 (East Indies).

Chelmon rostratus Bennett, Life of Raffles, 1830, p. 689 (Sumatra). — ~~Valenciennes~~, Règne Animal Cuv. Ill. Poiss., 1839, p. 1, Pl. 40 (~~Sumatra~~). — Cantor, Journ. Asiat.

filamentous.

Brown. Venter surface of head, branchiostegal region and opercles blackish, also breast. Belly dark brown. Iris neutral slate. Inside mouth gray. Inside gill opening blackish. Fins all brownish.

East Indies. Characteristic with sharp pointed projecting snout and its scales quite villose. Coloration obscure.

U. S. N. M., No. 72940. Lat. $1^{\circ}55'S$,
Long. $127^{\circ}42'30"E$.

Albatross Collection (D.).

Length 168 mm. Type of macrourus
orthogrammus.

195

Genus Chelmonops Bleeker.

Chelmonops Bleeker, Arch. Neerl. Sci. Nat.
H. arlem, vol. 11, 1876, p. 304. Type Chaetodon
truncatus Kner, orthotypic.

Snout produced, but shorter than in Chelmo,
and dorsal with 11 spines.
Australia.

1397

Coryphaenoides orbitalis (Garman)

Macrurus orbitalis Garman, Mem.
Mus. Comp. Zool., vol. 24, p. 207 (397),
pl. 47, figs. 1-1b, 1899 (type locality:
lat. $7^{\circ}32'36''N.$, long. $79^{\circ}16'W.$, east
of Cape Mala, Gulf of Panama, 286
fathoms).

Macrurus (Macrurus) orbitalis Brauer,
Deutsch. Tiefsee Exped. Valdivia, vol.
15, p. 388, 1906 (reference).

Macrurus orbitalis Jordan, Evermann,
Clark, Rep. U. S. Comm. Fisher., pt. 2,
p. 206, 1930 (reference).

Lionurus orbitalis Gilbert and Hubbs,
Proc. U. S. Nat. Mus., vol. 51, p. 146, 1916
(reference).

Depth $5\frac{3}{4}$ to $6\frac{7}{8}$; head 4 to $4\frac{1}{2}$, width 2 to $2\frac{1}{8}$. Snout to eye $3\frac{1}{5}$ to $3\frac{1}{2}$? in head; eye $4\frac{1}{3}$? to $4\frac{2}{3}$, $1\frac{1}{4}$ in snout, $1\frac{1}{4}$ to $1\frac{1}{2}$ times interorbital; orbit $3\frac{1}{4}$ to $3\frac{1}{2}$ in head, $1\frac{1}{6}$ to $1\frac{1}{4}$ times snout, $1\frac{1}{2}$ to $1\frac{2}{3}$ times interorbital; preoral length $4\frac{2}{5}$ to $4\frac{4}{5}$ in head; maxillary reaches $\frac{1}{2}$ in eye, length from front end $3\frac{1}{4}$ to $3\frac{1}{2}$ in head; mandibular barbel $2\frac{1}{2}$ to $3\frac{4}{5}$ in orbit; teeth minute, in villiform bands in jaws, of 5 or 6 irregular rows; interorbital $5\frac{1}{6}$ to 6 in head, low, nearly level or slightly depressed. Gill rakers 1 + 9 low spinescent tubercles on second arch, $\frac{1}{5}$ of gill filaments, which $1\frac{2}{3}$ in orbit.

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downward across opercle and belly to ventral base. Second body band begins on sixth and seventh spines and extends to vent. Third body band covers most of first to twelfth dorsal rays, narrowing somewhat as it extends down across front anal rays. Fourth body band connected at upper and lower ends with third, passes along vertical edges of soft dorsal and anal over caudal peduncle. Cross band of black on center of caudal peduncle, margined with pearl gray. Median band from nape to snout end same color as body bands. Interspaces between body bands silvery gray, pearl gray between rows of scales, especially posteriorly and below. Dorsal spines dusky, Membranes along posterior edge cadmium orange. Black ocellus in center of soft dorsal.

Scales (pockets) 105 in lateral line; 8 above, 16? below, 18 predorsal forward opposite hind orbital edge. Scales with 9 or 10 irregular rows of apical denticles, not extending behind scale edge; circuli fine, complete.

D. II, 9-50? to 106, second simple ray slender, front edge with row of antrorse denticles, length $1\frac{2}{3}$? to $1\frac{3}{4}$ in head; interdorsal space $2\frac{1}{3}$ to $2\frac{2}{3}$; A. 98, fin height $3\frac{2}{3}$?; pectoral rays I, 19, fin $1\frac{4}{5}$ to $2\frac{1}{5}$? in head; ventral rays I, 8, fin $2\frac{1}{3}$ to 3.

Brown, muzzle and front of head little pale. Iris dark gray. Inside mouth pale. Inside gill opening blackish brown, well inside pale below. Under surface of

190

3638 and 3639. Alibajaban Island.
March 6, 1909. Length 157 to 160 mm.

641. Batanman Island. June 13, 1909.
Length 150 mm.

1208. Capulaan Bay, Pagbilao Island.
February 24, 1909. Length 137 mm.

5539. Catangon, Marbute. April 17, 1908.
Length 130 mm.

840, 841, 1096. Catbalogan. April 15, 1908.
Length 122 to 155 mm.

11792. Camahala Bay, Ragay Gulf.
March 11, 1909. Length 155 mm.

1147 ~~and 8457~~. Cebu market. April 6,
1908. Length 113 mm. Ocular and 4 body
bands of cadmium orange, with dusky
margins, which also edged with pearl
gray. Ocular band begins eye diameter
before dorsal and ends just below
interopercle. First body band begins
on first to third dorsal spines, extends

mandible, branchiostegal region,
chest, breast and belly dark or
neutral black. Fins all brownish,
ventrals dusky.

Gulf of Panama

U. S. N. W., No. 57856. Lat. $7^{\circ}32'$
 $36''$ N., long. $79^{\circ}16'$ W.

In 286 fathoms.

Albatross Collection (D. 3385). Length
130 mm. 2 examples.

marginated with pearl gray; rays separated at tips, dusky, with submarginal pearl gray stripe. Caudal base orange, rest of fin hyaline. Anal like dorsal, without ocellus. Pectoral hyaline, base dusky. Ventral spine cadmium orange, rays white with yellowish wash and second to fifth distinctly cadmium orange.

8159. Cebu market. August 29, 1909. Length 90 mm.

558 and 559. Daisy Island. January 6, 1910. Length 135 to 136 mm.

323 to 326. Endeavor Strait. December 23, 1908. Length 150 to 163 mm.

443. Galvaney Island, Luzon. March 9, 1909. Length 147 mm.

1 example: Maatan Island, tide-pools. August 31, 1909. Length 20 mm.

5447. Maculabo Island. June 14, 1909. Length 144 mm.

1401

Coryphaenoides paradoxus (Smith and Radcliffe)

Macrourus paradoxus Smith and Radcliffe,
Proc. U. S. Nat. Mus., vol. 43, p. 115, pl. 25,
fig. 1, 1912 (type locality: eastern Palawan,
1105 fathoms).

Coryphaenoides paradoxus Gilbert and
Hubbs, Bull. U. S. Nat. Mus., no. 100, vol. 1,
p. 409, 1920 (type).

1402

Coryphaenoides pectoralis (Gilbert)

Macrurus (Malacocephalus) pectoralis
Gilbert, Proc. U. S. Nat. Mus., vol. 14, p. 563,
1891 (type locality: off Oregon, 685 to
877 fathoms). — Brauer, Deutsch.

Tiefsee Exped. Valdivia, vol. 15, p. 391, 1906
(reference).

Albatrossia pectoralis Jordan and Evermann,
Bull. U. S. Nat. Mus., no. 47, pt. 3, p.
2573, 1898 (copied). — Jordan and Gilbert,
Rep. Fur Seal Investig., vol. 3, p. 487,
1899 (off Bogoslof Island, 664 fathoms).

— Evermann and Goldsborough, Bull. Bur.
Fisher., vol. 26, p. 349, 1906 (1907) (copied).

— Jordan, Evermann, Clark, Rep. U. S. Comm.
Fisher., pt. 2, p. 204, 1928 (1930) (compiled).

Malacocephalus pectoralis Garman, Mem.
Mus. Comp. Zool., vol. 24, p. 395, 1899
(reference).

1403

Hematomurus pectoralis Gilbert and Hubbs,
Proc. U. S. Nat. Mus., vol. 51, p. 161,
1917 (off south east Saghalin Island;
east coast Saghalin Island; off southern
Hokkaido; 309 to 510 meters).

Macrurus (Hematomurus) magnus Gill
and Townsend, Proc. Biol. Soc.
Washington, vol. 11, p. 234, 1897 (type
locality: Bering Sea south west of
Pribilof Islands).

Depth $6\frac{7}{8}$ to $7\frac{3}{4}$; head $4\frac{4}{5}$ to $5\frac{2}{5}$,
width 2 to $2\frac{1}{4}$. Snout to eye $3\frac{4}{5}$ to
 $7\frac{4}{5}$ in head; eye $5\frac{1}{2}$ to 7, $1\frac{3}{5}$ to $1\frac{4}{5}$
in snout, $1\frac{2}{5}$ to 2 in interorbital;
orbit $4\frac{1}{2}$ to $4\frac{2}{3}$ in head, equals
snout, $1\frac{1}{5}$ to $1\frac{1}{4}$ in interorbital;
maxillary reaches well beyond eye,
length from front end $2\frac{1}{5}$ to $2\frac{1}{3}$
in head; teeth simple, conic, erect,
anteriorly 3 or 4 irregular series
narrowing posteriorly and lower teeth
uniserial; interorbital $3\frac{3}{4}$ to 4 in

1404
head, low, nearly level. Gill
rakers $3 + 12$ short spinescent tubercles
on second arch, $\frac{1}{2}$ of gill filaments,
which $1\frac{1}{2}$ in eye.

Scales 162 to 166 in lateral line
of which 30 forward of vent; 9 or 10
above, 23 below, 80 predorsal of
which 34 forward till opposite
hind eye edge. Scales on head
all smaller than on body. Scales
with 5 radiating apical striae,
each of which not extended beyond
scale edge; circuli moderately
coarse.

D. I, 9 — 100 to 128, first branched
ray $2\frac{1}{8}$ to $2\frac{1}{3}$? in head; A. 80 to
120, fin height $3\frac{1}{4}$ to $3\frac{3}{5}$;
pseudocaudal 3 to 7; pectoral rays
I, 16, fin $1\frac{9}{10}$ to 2 in head; ventral

1036 to 1040. Masamal Bay, Linalasag Island. June 12, 1909. Length 133 to 146 mm. ¹⁹³

9347. Murcielago Bay, Mindanao. August 21, 1909. 2 examples. Length 136 to 147 mm.

1260 and 1261. Nabatas Point, Vamar Island. July 24, 1909. Length 129 to 147 mm.

5764. Port Capangpungan, Mindanao. May 10, 1908. Length 137 mm.

771 to 774. Port Usan, west of Pinas Island. December 17, 1908. Length 116 to 128 mm. [927].

541 to 544, 1171. San Juanico Strait. April 13, 1908. Length 72 to 90 mm.

4721. Toba Island. December 14, 1909. Length 98 mm.

3877 (D. 5608). Binang Anang Island. November 18, 1909. Length 57 mm.

rays 1, 6, fin $2\frac{1}{5}$ to $2\frac{1}{4}$.

Dusky brown, more or less uniform. Fins dusky. Iris gray. Inside mouth and gill opening blackish. Where scales have fallen pockets show as dark brown reticulations.

North Pacific, Bering Sea. A large massive species, with long tapering body, strong dentition and obtuse head.

194
4322 U.S.N.M. No locality.
National Institute. Length 112 to 113
mm. 2 examples.

56326 U.S.N.M. Cavite, Philippines.
Dr. G. A. Ling. Length 170 mm.

84205 U.S.N.M. Cebu. Mr. F. Baker.
Length 113 mm.

U. S. N. M., No. 47236.

Albatross Collection ().

Length 530 mm to end of broken tail.

^{Para} type of macurus (malacocephalus)
pectoralis.

U. S. N. M., No. 47235.

Albatross Collection (). Length

700 mm. Type of macurus (malacocephalus)
pectoralis.

U. S. N. M., No. 48770.

Albatross Collection ().

Length 1080 mm. Type of macurus
(hematonurus) magnus.

U. 1302

1906 (1907), p. 33 (Cavite). — Beaufort,
 Bijdr. Dierk. Amsterdam, deel 19, 1913, p.
 125 (Horong, New Guinea). — McCulloch,
 Australian Zool., vol. 2, pt. 3, February 10,
 1922, p. 91, plate 27, fig. 231a (Iluka,
 New South Wales). — Fowler and Bean, Proc.
 U. S. Nat. Mus., vol. 62, 1922, p. 56 (Cebu). —
Ahl, Arch. Naturg., band 89, abth. A, heft
 5, 1923, p. 12 (type; Singapore; Indian
 Ocean; New Guinea; Paracali, Luzon).
^{Valenciennes, Règne Animal, Poiss. Ill., 1839, plate 40, fig. 171a (no locality).}
Chelmo rostratus, Gray, Cat. Fish. Grouper,
^{vol. 2,}
 1854, p. 73 ~~Chelmo rostratus~~. — Günther, Cat.
 Fish. Brit. Mus., vol. 2, 1860, p. 36 (Celebes,
 Singapore, India, Port Essington). — Kner,
 Reise Novara, Fische, 1865, p. 103 (Madras).
 — Steindachner, Sitzb. Akad. Wiss. Wien,
 band 60, heft 1, 1870, p. 561 (Singapore). —
Károli, Termesz. Füzetek, Budapest, vol. 5,
 1881, p. 155 (Singapore). — Meyer, Ann.
 Soc. Espan. Hist. Nat. Madrid, vol. 14,

Albatross Collection ().

1407

Length 983 mm. Paratype of macurus
(hematomus) magnus.

U. S. N. M., No. 49094.

Albatross Collection (). Length
730 mm.

U. S. N. M., No. 77250.

Albatross Collection (). Length
645 mm.

Ther

D. XI, 26 or 27; A. III, 18 to 21; scales 43 to 55. Whitish, with 5 black transverse bands, and grayish band in each interspace. Reaches 150 mm.

Greenland, New South Wales, Lord Howe Island.

1408

Coryphaenoides polylepis (Alcock)

Macrurus polylepis Alcock, Ann. Mag. Nat. Hist., ser. 6, vol. 4, p. 395, 1889 (type locality: lat. $20^{\circ}17'30''$ N., long. $88^{\circ}51'$ E., Bengal Bay, 193 fathoms; lat. $19^{\circ}35'$ N., long. $92^{\circ}24'$ E., 272 fathoms). — Alcock, Journ. Asiatic Soc. Bengal, vol. 63, pt. 2, p. 127, 1894 ().

— Goode and Bean, Oceanic Ichth., p. 390, 1895 (reference). — Garman, Mem. Mus. Comp. Zool., vol. 24, p. 396, 1899 (reference). — Alcock, Illustrat. Zool. Investigator, pt. 7, pl. 29, fig. 4, 1900.

Macrurus (Macrurus) polylepis Alcock, Cat. Deep Sea Fishes Indian Mus., p. 112, 1899 (Bengal Bay, 193 to 272 fathoms).

Lionurus polylepis Gilbert and Hubbs, Proc. U. S. Nat. Mus., vol. 51, p. 146, 1916 (reference).

1409

Coryphaenoides propinquus (Gilbert and Cramer)

Macrurus propinquus Gilbert and Cramer,
Proc. U. S. Nat. Mus., vol. 19, p. 424, pl.
42, fig. 2, 1897 (type locality: Hawaiian
Islands, 313 to 315 fathoms). — Gilbert,

Bull. U. S. Fish Comm., vol. 23, pt. 2, p.
667, 1903 (1905) (off Kauai, 286 to 476
fathoms).

Macrurus propinquus Garman, Mem. Mus.
Comp. Zool., vol. 24, p. 396, 1899 (reference).

Macrurus (Macrurus) propinquus Brauer,
Deutsch. Tiefsee Exped. Valdivia, vol. 15, p.
389, 1906 (reference).

Lionurus propinquus Gilbert and Hubbs,
Proc. U. S. Nat. Mus., vol. 51, p. 146, 1916
(reference).

Coryphaenoides propinquus Fowler, Mem.
Bishop Mus., vol. 10, p. 86, 1928 (Hawaiian
Islands).

1410

Depth 6 to $6\frac{1}{2}$; head $5\frac{1}{2}$ to $5\frac{3}{4}$,
width $1\frac{4}{5}$ to $1\frac{7}{8}$. Snout $3\frac{2}{5}$ to 4
in head; eye $3\frac{2}{5}$ to $3\frac{1}{2}$, greater
than snout or interorbital;
preoral length but little inclined
from vertical, length $3\frac{2}{3}$ to $4\frac{1}{2}$
in head; maxillary reaches $\frac{1}{4}$ to $\frac{1}{2}$
in eye, length from front end
3 to $3\frac{1}{8}$ in head; mandibular
barbel $1\frac{1}{3}$ to $1\frac{1}{2}$ in eye; teeth
in villiform bands in jaws, of
4 or 5 irregular rows above with
outer row slightly enlarged
and below or ^{6 or 7} rows (irregular),
small, uniform; interorbital
 $4\frac{1}{8}$ to $4\frac{1}{4}$ in head, low, nearly

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Depth $1\frac{2}{5}$ to $1\frac{3}{5}$; head $2\frac{1}{2}$ to $2\frac{7}{8}$, width $2\frac{1}{10}$ to $2\frac{2}{5}$. Snout $2\frac{3}{5}$ to $3\frac{1}{8}$ in head from snout tip; eye $2\frac{3}{4}$ to $3\frac{4}{5}$, greater than snout in young to $1\frac{2}{5}$ with age, equals interorbital; maxillary $\frac{3}{5}$ to $\frac{2}{3}$ in snout, 4 to $4\frac{2}{3}$ in head; interorbital $3\frac{1}{8}$ to 4, broadly convex. Gill rakers 3 + 6 short feeble points, $\frac{1}{8}$ of gill filaments, which $1\frac{1}{5}$ in eye.

Scales 34 to 39 between gill opening and caudal base; tubes 42 to 46 in lateral line to caudal base; 9 or 10 scales above lateral line, 22 to 26 below. Scales with 10 or 11 basal radiating striae; apical denticles 35 to 43, with 4 series of transverse basal elements; circuli fine.

D. IX, 28, I or 29, I, last spine $1\frac{1}{8}$ to $1\frac{2}{5}$ in total head length, first ray $1\frac{1}{8}$ to $1\frac{2}{5}$; A. III, 19, I to 21, I, last spine $1\frac{1}{2}$ to $1\frac{3}{4}$, third ray $1\frac{1}{3}$ to $1\frac{2}{5}$; least depth of caudal peduncle $2\frac{3}{4}$ to $3\frac{1}{3}$; caudal $1\frac{2}{5}$ to $1\frac{1}{2}$, hind edge convex; pectoral $1\frac{1}{4}$ to $1\frac{2}{5}$; ventral $2\frac{1}{5}$ to $2\frac{4}{5}$ in combined head and body.

Brown generally, muzzle whitish, snout above brownish. Broad blackish-brown band from predorsal down through eye hind below forms broad band on breast and chest medially, though not quite reaching ventrally. Posteriorly broad white band comprising rest of head and all of side of breast.

level. Gill rakers $0 + 7$ low
spinescent tubercles on second arch,
 $\frac{1}{3}$ of gill filaments, which $2\frac{1}{2}$ in
eye.

Scales 137 in lateral line; 14
above, 17 below, 38? predorsal of
which 20 forward till opposite
hind eye edge. Scales with 6 to
8 parallel apical rows of
slender and rather long spinules,
last well extended beyond scale
edge; circuli moderate, complete.

D. II, 13 - 14, second simple
ray slender, with row of antrorse
denticles along front edge, length
 $1\frac{1}{5}$ to $1\frac{1}{4}$ in head; interdorsal
space $2\frac{3}{4}$ to 3; A. 100, fin
height $3\frac{1}{8}$ to $4\frac{1}{5}$ in head; pectoral
rays I, 20, fin $1\frac{2}{3}$ to $1\frac{3}{4}$ in head;
ventral I, ¹⁵, fin nearly long as

24

Ahl, Arch. Naturg., band 89, abth. A,
heft 5, 1923, p. 40 (Ralum and Java).

Chaetodon enneacanthus Cuvier, Hist.

Nat. Poiss., vol. 7, 1831, p. 63. no locality.

Chaetodon labiatus (Kuhl and Van Hasselt)

Cuvier, l.c. Java.

Chaetodon guttatus (non Bloch) Gray,

Cat. Fish. Gronow, vol. 2, 1854, p. 71.

Indian Ocean.

Coradion altivelis McCulloch, Biol. Res.

Endeavour, vol. 4, pt. 4, 1916, p. 191, plate 56,
fig. 1. Wide Bay, Queensland.

head and first ray ends in long filament.

T Brown. Head little paler than body. Branchiostegal region, breast, belly and chest dark neutral gray to blackish. Iris gray. Gill openings largely dark inside. Fins all pale.

Hawaiian Islands. A small species, in alcohol distinguished by its pale yellowish vertical fins, the first dorsal darker terminally.

~~U. S. N. M., No. 47702.~~

~~Albatross Collection (23473). Length 198 mm.~~

Coradion chrysogonus (Cuvier).

~~Chaetodon chrysogonus (Kuhl and Van Hasselt)~~
Cuvier, Hist. Nat. Poiss., vol. 7, 1831, p. 62.
Java. — Valenciennes, Regne Animal Cuv.
 Poiss. Ill., 1839, plate 37, fig. 2 (Java).
 — Günther, Cat. Fish. Brit. Mus., vol. 2, 1860,
 p. 34 (Amboina, China). — Kner, Reiz. Novara,
 Fische, 1866, p. 101 (Java). — Meyer, Ann.
 Soc. Espan. Hist. Nat. Madrid, vol. 14,
 1885, p. 17 (Manado, Celebes). ~~and~~
~~Bleeker, Proc. N. Y. Nat. Mus., vol. 62, 1942, p.~~
~~155 (Cebu).~~

Coradion chrysogonus Kaup, Arch. Naturg.,
 abth. 1, 1860, p. 146 (Java). — Bleeker,
 Atlas Ichth. Ind. Néerl., vol. 9, 1877, p. 25,
 plate (14) 376, fig. 5 (Java, Celebes,
 Amboina). — Elera, Cat. Fauna Filip., vol. 1,
 1895, p. 487 (Luzon, Manila). — Weber, Siboga
 Exped., band 65, 1913, p. 309 (Macassar). —

U.S. N. M., No. 47702.

In 351 fathoms.

Albatross Collection (D. 3473). Length
198 mm.

U.S. N. M., No. 47741.

In 351 fathoms.

Albatross Collection (D. 3475). Length 150
mm. Type of macrourus propinquus.

U.S. N. M., No. 55244.

Albatross Collection (). Length 152
to 182 mm. 7 examples.

U.S. N. M., No. 55245.

Albatross Collection (). Length
105 to 187 mm. 35 examples.

208

Genus Coradion Kaup.

Coradion Kaup, Arch. Naturges., band 24, abth. 1, 1860, p. 146. Type Chaetodon chryzomus Cuvier, designated by Sauvage, Hist. Nat. Madagascar, Poiss., 1891, p. 253.

Differs from Chaetodon in its imperfect dentition, soft dorsal and anal bases nearly vertical and fewer anal spines 8 to 10.

Analysis of the species.

a. Caudal peduncle with ^{dark or} black bar or band; anterior broad dark ~~chryzomus~~
~~caudal peduncle pale~~ ~~transverse~~
transverse band with median pale dividing line or band parallel above; dark ocular band not on breast.

b. Dorsal only with ocellus.

bb. Soft dorsal and anal each with ocellus. chryzomus
melanopus

U. S. N. M., No. 55262.

1414

Albatross Collection (). Length
115 to 155 mm. 5 examples.

207
52282 U.S.N.M. Apia, Samoa.
Bureau of Fisheries. Length 123 mm.

55107 U.S.N.M. Honolulu.
Albatross Collection. Length 153 to 183
mm. [2526.]

55477 U.S.N.M. Honolulu, Hawaiian
Islands. 1902? Length 155 mm. [538.]

58520 U.S.N.M. Honolulu. E. L. Berndt.
Length 120 mm.

63632 U.S.N.M. Honolulu. E. L. Berndt.
Length 105 to 172 mm. 2 examples.

65838 U.S.N.M. Fakarua. Albatross
Collection. Length 20 mm.

1415

Coryphaenoides rudis Günther

Coryphaenoides rudis Günther, Ann.
Mag. Nat. Hist., ser. 5, vol. 2, p. 24, 1878
(type locality: Pacific Ocean north of
Kermadec Island, 500 to 650 fathoms).
— Gilbert and Hubbs, Proc. U.S. Nat.
Mus., vol. 51, p. 144, 1916 (reference).

Macrurus rudis Günther, Rep. Voy.
Challenger, vol. 22, p. 131, pl. 27, 1887
(types, in 520 to 630 fathoms). — Goode
and Bean, Oceanic Ichth., p. 390, 1895
(reference). — Garman, Mem. Mus.
Comp. Zool., vol. 24, p. 396, 1899 (reference).

Macrurus (macrurus) rudis Brauer,
Deutsch. Tiefsee Exped. Valdivia, vol.
15, p. 264 (389), 1906 (lat. $3^{\circ} 7' S$, long.
 $40^{\circ} 45' 8'' E$, off East Africa, 748 meters).

Macrurus rudis Waite, Rec. Canterbury
Mus., vol. 1, no. 1, p. 17, April 25, 1907
(reference). — Franz, Abhandl. Bayer.
Akad. Wiss., vol. 4, suppl. band 1, p.

26, 1910 (Aburatsubo). — ¹⁴¹⁶Jordan,
Tanaka, Snyder, Journ. College Sci.,
Tokyo, vol. 33, p. 417, 1913 (compiled).

1417

Coryphaenoides rupestris Gunner

Coryphaenoides rupestris Gunner,
Thrandhj. Selsk. Skrift., vol. 3, pp. 50,
51, pl. B, figs. 1-2, 1765 (type locality:
Dontheim, Norway). — Day, Fishes
Great Britain, vol. 1, p. 335, pl. 93, 1880-
84 (Shetland Islands; Faroes). —

Miner, Rep. U. S. Fish Comm., pt. 11, p.
185, 1883 (1885) (lat. $39^{\circ}26'16''$ N., long.
 $70^{\circ}2'37''$ W., 1362 fathoms). — Jordan
and Gilbert, Bull. U. S. Nat. Mus., no.
16, p. 812, 1883 (compiled). — Jordan,
Rep. U. S. Fish Comm., pt. 13, p. 919,
1885 (1887) (reference). — J. H. Bean,
Bull. U. S. Fish Comm., vol. 7, p. 243,
1887 (1888) (lat. $36^{\circ}50'$ N., long. $74^{\circ}33'$ W.).
— Goode and Bean, Oceanic Ichth., p.
402, 1895 (Gulf Stream). — Jordan and
Evermann, Bull. U. S. Nat. Mus., no. 47,
pt. 3, p. 2579, 1898 (copied). — Garman,
Mem. Mus. Comp. Zool., vol. 24, p. 396,
1899 (reference). — Gilbert and Hubbs,
Proc. U. S. Nat. Mus., vol. 51, p. 143, 1916

(reference). — Jordan, Evermann, Clark,¹⁴¹⁸
Rep. U.S. Comm. Fisher., pt. 2, p. 205, 1930

(reference).

Macrurus rupestris Smitt, Scandinavian
Fishes, vol. 2, p. 590, pl. 27 A., fig. 2, 1895
(Helgeland, Trondhjem Fjord,
Björnör, Arendal, Christiania,
Bohuslän, between Koster and Weather
Islands, Svanger, & Shaw). — Collett,

Rés. Camp. Sci. Monaco, vol. 10, p. 69, pl. 3,
fig. 11, 1896 (lat. $46^{\circ}50'6''$ N., long. $50^{\circ}11'45''$
W., 155 meters). — Köhler, Ann. Univ.
Lyon, vol. 26, p. 494, 1896 (Gulf of
Gascony, 800 to 1410 meters).

Macrurus (Coryphaenoides) rupestris
Günther, Rep. Voy. Challenger, vol. 22,
p. 138, 1887.

Macrurus stroemii Reinhardt, Dansk.
Vidensk. Selsk. Naturv. Afh., vol. 5,
p. 19, 1828.

1419

Lepidoleprus norvegicus Hilsson, Prodr.
Ichth. Scand., p. 51, 1832 (type locality:
Norway).

Macrourus norvegicus Hilsson, Skand.
Fisk., p. 600, 1855.

Macrurus norvegicus Gill, Cat. Fishes
East Coast, p. 49, 1861 (name).

Coryphaenoides norvegicus Günther, Cat.
Fishes Brit. Mus., vol. 4, p. 396, 1862
(compiled). — Gill, Rep. U. S. Fish
Comm., pt. 1, p. 795, 1871 (1873) (name).

Depth 6 to $6\frac{3}{5}$; head $4\frac{2}{3}$ to $5\frac{1}{5}$,
width 2 to $2\frac{1}{4}$. Snout to eye $3\frac{1}{3}$ to
 $3\frac{2}{3}$ in head; eye $3\frac{1}{3}$ to $5\frac{1}{4}$, 1 to $1\frac{1}{2}$
in snout, $1\frac{1}{4}$ to $1\frac{7}{8}$ in interorbital;
orbit $3\frac{1}{8}$ to $3\frac{3}{5}$ in head, 1 in snout,
 $1\frac{1}{6}$ to $1\frac{1}{4}$ in interorbital; maxillary
reaches $\frac{3}{4}$ to $\frac{4}{5}$ in eye, length from
front end $2\frac{7}{8}$ to 3 in head; mandibular
barbel 4 to 7 in eye; teeth small, in
3 or 4 irregular series, upper outer

1420

series little enlarged; interorbital $2\frac{1}{2}$ to 3 in head, broadly convex. Gill rakers 4 + 14 low points on second arch, $\frac{1}{2}$ of gill filaments, which $3\frac{1}{2}$ in eye.

Scales 170 in lateral line; 11 above, 22 below, 50 predorsal of which about 20 to occiput. Scales with 22 to 25 irregular series of long slender apical spinules, last of which extend well beyond scale edge; circuli moderate, not extended apically.

D. II, 10 - 167 to 170, with second simple ray slender and its front edge with row of antrorse spines, first branched ray $1\frac{2}{3}$ to $1\frac{3}{4}$? in head; interdorsal space 2 to $2\frac{3}{4}$; A. 178 to 180, fin height $3\frac{3}{4}$ to $4\frac{1}{4}$? in head; pectoral rays

206

989. Port Matalvi. November 23, 1908.
Length 140 mm.

409 to 411, 3918, 3919, 4603. Port Palapag.
June 3, 1907. Length 112 to 130 mm.

581 to 583, 698. Sablayan, Mindoro.
December 12-13, 1908. Length 126 to 140 mm.

4726. ^{Buka} Buku Island, Gulf of Tomini,
Celebes. November 20, 1909. Length 144
mm.

4767 [2063]. West of Malibug^u
Point, Celebes. November 21, 1909. Length
165 mm.

4801. Limbe Strait, Celebes. November
10, 1909. Length 154 mm.

48528 U.S.N.M. Socorro Island. R.C.
Mac Gregor. Type of Forcipiger flavissimus.
~~2 examples.~~

I, 16, fin $1\frac{1}{2}$ to $1\frac{7}{8}$ in head;
ventral I, 7, fin $1\frac{1}{5}$ to $1\frac{2}{5}$ times
head, first simple ray long and
filamentous.

Uniform brownish. Iris pale
to whitish. Inside mouth brown.
Inside gill opening blackish
brown. Fins more or less dusky.

North Atlantic. Young often
with pale or even slightly
silvered tints on sides of head
and trunk.

205

849. Baganga Bay. March 13, 1908.
Length 112 mm.

9672. Cayayanes Island. March 31, 1909.
Length 154 mm.

716. Caracaran, Batan Island. June 8,
1909. Length 133 mm.

1006. Donawan Island and Si Amil
Island. September 27, 1909. Length 138 mm.

9718. Karga Island. November 29, 1909.
Length 144 mm.

351 and 9664. Mabul Island. September
29, 1909. Length 145 to 160 mm.

3931. Makyan. November 29, 1909. Length 131 mm.

275. Paluan Bay, Mindoro. December
11, 1908. Length 140 mm.

4803. Paratid Harbor, Makyan Island.
November 20, 1909. Length 147 mm.

4811 and 9877. Paratid Harbor. November
28, 1909. Length 96 to 125 mm.

1422

U. S. N. M., no. 17364. Bergen,
Norway. Swedish Government. ~~Length~~
Length 707 mm.

U. S. N. M., no. 23417. 36 miles
E. of N. E. Light off Vable Island.
August 1879. C. Ruckley. Length
75? to 200? mm. 2 examples in
poor condition.

U. S. N. M., no. 26347. South
Bangquereau. In 150 fathoms.
October 6, 1880. Capt. Jerome Mc
Donald. Schooner "G. P. White".
Length 743 mm.

U. S. N. M., no. 31859. Lat. $39^{\circ}52'N$,
long. $70^{\circ}30'W$. In 554 fathoms.
October 4, 1882. U. S. Fish Comm.
(D. 1155). Length 425 to 507 mm.

Forcipiger flavissimus is said to differ chiefly in coloration, the much larger anal blotch not ocellated as in the Forcipiger longirostris, besides vertically oblong. Its body is said to be much deeper, the depth given as 2. At best it would appear to us as a variation, for the depth of examples both from our present series and extensive materials from Oceania reveal very great variation in the heads, so that the proportions in comparative body depth would greatly fluctuate.

U. S. N. M., No. 32687. Lat. $37^{\circ}16'$
 $30''$ N., long. $74^{\circ}26'36''$ W.
March 23, 1883.

Albatross Collection (A. 5). Length
610 mm.

U. S. N. M., No. 32688. Lat. $37^{\circ}16'$
 $30''$ N., long. $74^{\circ}26'36''$ W.
March 28, 1883. Albatross Collection
(A 6). Length 570 mm.

U. S. N. M., No. 33441. Lat. $41^{\circ}11'$
 $30''$ N., long. $66^{\circ}12'20''$ W.
September 4, 1883. Albatross Collection
(D. 2078). Length 430 mm.

U. S. N. M., No. 35444. Lat. $39^{\circ}25'$
 $50''$ N., long. $71^{\circ}49'30''$ W.
July 23, 1884. Albatross Collection
(D. 2180). Length 787 mm.

Largely uniform dull brown. Head and breast little darker than rest of body. Broad blackish predorsal band - down to eye and over all of postocular to head and pectoral axil, also extended forward as narrow blackish band on preorbital to front of snout, then united as median superior band on rostrum above. Soft dorsal and anal each with submarginal deep brown line, on last anal rays terminally forming black rounded spot but little smaller than eye. Caudal brown. Paired fins quite pale.

Mauritius, East Africa, India, East Indies, ^{Greenland, Melanesia, Micronesia,} Philippines, Polynesia, Hawaii. While largely quite uniform in color pattern the species varies greatly in the length of the rostrum.

1424

U. S. N. M., no. 38086. Lat. 39°
 $50' N.$, long. $70^{\circ} 26' W.$ In 555 fathoms.
July 16, 1886.
Length 590 mm.

U. S. N. M., no. 38160. Lat. $36^{\circ} 45'$
 $N.$, long. $74^{\circ} 28' 30'' W.$ In 781 fathoms.
October 25, 1886. Albatross Collection
(D. 2731). Length 660 mm.

U. S. N. M., no. 39250. Lat. $38^{\circ} 35'$
 $N.$, long. $73^{\circ} 5' 15'' W.$ In 554 fathoms.
September 18, 1887. Albatross Collection
(D. 2744). Length 215 mm.

U. S. N. M., no. 44253. Lat. $39^{\circ} 51' N.$,
long. $70^{\circ} 17' W.$
Albatross Collection (D. 2528). Length
687 mm.

U. S. N. M., no. 44254. Lat. $41^{\circ} 47' N.$,
long. $65^{\circ} 37' 30'' W.$
July 13, 1885. Albatross Collection
Length 765 mm.

Depth $2\frac{1}{8}$ to $2\frac{1}{2}$; head $1\frac{7}{8}$ to $2\frac{1}{4}$, width $3\frac{7}{8}$ to $5\frac{1}{2}$.
 Snout $1\frac{4}{5}$ to $2\frac{2}{5}$ in head; eye $4\frac{2}{3}$ to $7\frac{4}{5}$, $2\frac{3}{4}$ to $5\frac{1}{4}$ in
 snout, greater than interorbital; maxillary
 $\frac{2}{3}$ to $\frac{3}{4}$ in snout, $1\frac{7}{8}$ to $2\frac{7}{8}$ in head; interorbital
 $5\frac{3}{4}$ to $8\frac{1}{2}$, slightly elevated convexly. Gill
 rakers 4 + 11, short points, $\frac{1}{5}$ of gill
 filaments, which $1\frac{1}{4}$ in eye.

Scales 63 to 75 in lateral line to caudal
 base; 12 or 13 scales above lateral line, 29
 to 31 below. Scales with 8 to 11 basal radiating
 striae; apical denticles 38 to 48, with 3 to 11
 transverse series of basal elements; circuli
 fine.

D. XI or XII, 22, 5 to 24, 5, fourth spine $1\frac{2}{3}$
 to $2\frac{1}{2}$ in head, first ray $1\frac{3}{4}$ to $3\frac{3}{4}$; A. III, 17, I
 or 18, I, third spine $1\frac{7}{8}$ to $2\frac{1}{2}$, first ray $1\frac{2}{5}$ to $2\frac{1}{2}$;
 caudal with hind edge little emarginate
 obliquely, so upper rays longer, $1\frac{7}{8}$ to $3\frac{2}{5}$;
 least depth of caudal peduncle $5\frac{3}{4}$ to $9\frac{1}{4}$;
 pectoral $1\frac{1}{8}$ to $1\frac{3}{4}$; ventral $1\frac{1}{4}$ to $1\frac{7}{8}$.

1425

U. S. N. M., No. 45824. Lat. $41^{\circ}11'30''$ N., long. $66^{\circ}12'20''$ W. In 499 fathoms. September 4, 1883. Albatross Collection (D. 2078). Length 385 mm. In poor preservation.

U. S. N. M. One example. No locality. No 16/75. Length 637 mm.

U. S. N. M. One example.

Albatross Collection (D. 2429). Length 123 mm.

U. S. N. M. One example.

Albatross Collection (D. 2546). Length 238 mm.

201

Fowler, Bishop Mus. Bull., no. 22, 1925, p. 27 (Honolulu). — Fowler and Ball, Bishop Mus. Bull., no. 26, 1925 (1926), p. 17 (Wake Island).

Chelmon rostratus (non Linnaeus) Thiollière, Faun. Woodlark, 1857, p. 166 (Woodlark Island).

Chelmon lol (Montrouzier) Thiollière, l.c. (name in synonymy).

Forcipiger flavissimus Jordan and McGregor, Rep. U. S. Fish Comm., pt. 24, 1898 (1899), p. 279.

Clarion, Socorro and San Benedicto Islands, Revillagigedo Archipelago. — Jordan and Evermann, Bull. U. S. Nat. Mus., no. 47, pt. 2, 1898, p. 167 (Clarion and Socorro Islands).

1426

Coryphaenoides sclerorhynchus (Valenciennes)

Macrurus sclerorhynchus Valenciennes,
Hist. nat. Iles Canaries, Poiss., vol. 2,
pt. 2, p. 80, 1836-44 (type locality:
Lanzarote, Arrecife, Canary Islands).

Macrurus sclerorhynchus Günther,
Cat. Fishes Brit. Mus., vol. 4, p. 394,
1862 (type); Rep. Voy. Challenger,
vol. 22, p. 133, pl. 32, fig. 11, 1887
(90 miles south east Cape St. Vincent,
1090 fathoms). — Vaillant, Expéd.
Sci. Travailleur et Talisman, Poiss.,
p. 237, pl. 22, figs. 2a-c (scale), 1888
(off Morocco; Canaries; Soudan;
Banc d'Arguin; Cape Verde; Cape
Verde Islands; Azores; 540 to 3655
meters). — Carus, Prodr. medit.,
vol. 2, p. 583, 1893 (compiled). —
Collett, Rés. Camp. Sci. Monaco, vol. 10,
p. 78, 1896 (Strait of Pico-Fayal, Azores,
800 meters). — Garman, Mem. Mus.
(Goode and Bean, Oceanic Ichth., p. 391,
1895 (reference)). —

Comp. Zool., vol. 24, p. 396, 1899 (reference).
— Murray and Hjort, Depths of the
Ocean, p. 397, 1912 (south of
Portugal; Canaries; mid North Atlantic;
south of England; Orkneys; 747 to
1706 fathoms).

Macrurus (macrurus) sclerorhynchus
Brauer, Deutsch. Tiefsee Exped. Valdivia,
vol. 15, p. 205 (390), 1906 (Gulf of
Liden, 1840 meters).

Macrurus sclerorhynchus Roule, Rés.
Camp. Sci. Monaco, vol. 52, p. 79, 1919
(south east of Flores; 60 miles south
south east of Cape St. Vincent; 55
miles north north west of Fayal, Azores;
1473 to 1900 meters). (Error.)

Lepidoleprus sclerorhynchus Valenciennes,
Hist. Iles Canaries, Poiss., vol. 2, pt. 2, pl.
14, fig. 1, 1836-44.

Lionurus sclerorhynchus Gilbert and Hubbs,
Proc. U. S. Nat. Mus., vol. 51, p. 146, 1916
(reference).

Of the following materials, both poorly preserved and small, I am unable to make out few of the characters, insufficient for description.

U. S. N. M., No. 42092.

Paris Museum (86 + 167). Length 105 mm.

U. S. N. M., No. 42104.

Paris Museum (86 + 164). Length 75 mm.

199

Forcipiger longirostris (Broussonet).

Chaetodon longirostris Broussonet, Descr.

Ichth., 1782, no pagination, plate. Pacific Ocean near Society and Hawaiian Islands. —

Gmelin, Syst. Nat. Linn., 1789, p. 1264

(Pacific Ocean). — Walbaum, Arted. Pisc.,

vol. 3, 1792, p. 438 (in Broussonet). — Schneider,

Syst. Ichth. Bloch, 1801, p. 231 (Pacific Ocean).

— Lacépède, Hist. Nat. Poiss., vol. 4, 1802, pp. 453, 473 (Great Ocean). — Cuvier, Hist. Nat.

Poiss., vol. 7, 1831, p. 67, plate 175 (Society Islands, Hawaii, East Indies, Mauritius).

Chaetodon longirostris Bonnaterre, Tabl. Ichth., 1788, p. 86, plate 47, fig. 176 (Pacific Ocean).

Chaetodon longirostris Cuvier, Règne Animal, vol. 2, 1817, p. 331. — Cuvier, l.c., vol. 2, ed. 2,

1829, p. 334. Day, Faun. British India,

vol. 2, 1889, p. 10.

1429

Coryphaenoides semiquincunciatus (Alcock)

Macrurus semiquincunciatus Alcock,
Ann. Mag. Nat. Hist., ser. 6, vol. 4, p.
312, Nov. 1889 (type locality: Bay of
Bengal south by west of North Sentinel
Island, Andamans, 130 to 250 fathoms);
ser. 6, vol. 8, p. 121, 1891 (Laccadive Sea,
240 to 276 fathoms); ser. 6, vol. 10,
p. 351, 1892 (Station 131, 410 fathoms);
Journ. Asiatic Soc. Bengal, vol. 63, pt.
2, p. 127, 1894 (); Illustrat.
Zool. Investigator, pt. 2, pl. 12, fig. 2,
1894. — Goode and Bean, Oceanic
Ichth., p. 390, 1895 (reference). —

Garman, Mem. Mus. Comp. Zool., vol. 24,
p. 396, 1899 (reference).

Macrurus (Macrurus) semiquincunciatus
Alcock, Cat. Deep Sea Fishes Indian
Mus., p. 111, 1899 (Andaman Sea; Bengal
Bay; 240 to 410 fathoms). — Brauer,
Deutsch. Tiefsee Exped. Valdivia, vol.

15, p. 261 (388), 1906 (east coast of
Africa, 463 to 977 meters). 1430

Lionurus semiquincunciatus Gilbert
and Hubbs, Proc. U. S. Nat. Mus., vol. 51,
p. 146, 1916 (reference).

1431

Coryphaenoides semiscaber Gilbert and
Hubbs

Coryphaenoides semiscaber Gilbert and
Hubbs, Bull. U. S. Nat. Mus., no. 100, vol.
1, p. 410, fig. 6, 1920 (type locality;
east of Masbate Island, 604 fathoms).

Coryphaenoides serratus (Lowe)

1432

Macrurus serratus Lowe, Proc. Zool. Soc. London, vol. 11, p. 91, 1843 (type locality: Madeira).

Macrurus serratus Goode and Bean, Oceanic Ichth., p. 392, 1895 (reference).

— Roule, Rés. Camp. Sci. Monaco, vol. 52, p. 79, 1919 (.50 miles off Mogador; 3 miles east of Lanzarote; 5 miles north east of Maio; 7 miles south west of Sal, Cape Verde Islands; 6 miles south São Miguel; 30 miles east of Terceira; 3 miles north of Fayal; north of São Jorge; between Pico and São Jorge; 950 to 2165 meters). — Vaillant,

Rés. Camp. Sci. Monaco, vol. 52, p. 134, 1919 (lat. 37° to 38° N., long. 23° to 25° W., 1230 to 1622 meters).

Coryphaenoides serratus Günther, Cat. Fishes Brit. Mus., vol. 4, p. 396, 1862 (copied).

Macurus smiliophorus Vaillant,¹⁴³³
Expéd. Sci. Travailleur et Talisman, Poiss.,
p. 242, pl. 22, figs. 1a - d, 1888 (type
locality: Gulf of Gascony; Morocco;
Soudan; Cape Verde Islands; 460 to
1319 meters).

Coryphaenoides serrulatus Günther

1434

Coryphaenoides serrulatus Günther, Ann.
Mag. Nat. Hist., ser. 5, vol. 2, p. 26, 1878
(type locality: north east of New Zealand,
700 fathoms). — Gilbert and Hubbs,

Proc. U. S. Nat. Mus., vol. 51, p. 144, 1916
(reference).

Macrurus serrulatus Goode and Bean,
Oceanic Ichth., p. 390, 1895 (reference). —
Garman, Mem. Mus. Comp. Zool., vol. 24,
p. 396, 1899 (reference).

Macrurus (Macrurus) serrulatus Brauer,
Deutsch. Tiefsee Exped. Valdivia, vol. 15,
p. 389, 1906 (reference).

Macrurus serrulatus Waite, Rec.
Canterbury Mus., vol. 1, no. 1, p. 47, April
25, 1907 (reference).

Coryphaenoides sibogae Weber and Beaufort

Coryphaenoides sibogae Weber and Beaufort,
Fishes Indo Austral. Arch., vol. 5,
p. 29, 1929 (type locality: Flores Sea,
694 meters).

Coryphaenoides simulus (Goode and Bean)

Chalinura simula Goode and Bean,
Bull. Mus. Comp. Zool., vol. 10, no. 5,
p. 189, 1883 (type locality: lat. $41^{\circ}25'45''$ N., long. $65^{\circ}35'30''$, Gulf Stream, 1242
fathoms). — Miner, Rep. U. S. Fish Comm.,

pt. 11, p. 185, 1883 (1885) (Lat. $38^{\circ}44'$ N., long.
 $72^{\circ}38'$, 1209 fathoms; lat. $38^{\circ}47'20''$ N., long.
 $72^{\circ}37'$, 1091 fathoms). — Jordan, Rep.

U. S. Fish Comm., pt. ^{p. 132,} 1885 (1887)
(name). — Goode and Bean, Oceanic
Ichth., p. 412, pl. , fig. 345, 1895

(Gulf Stream lat. 31° to 41° N., long. 65° to 78° W.,
333 to 1731 fathoms). — Jordan and
Evermann, Bull. U. S. Nat. Mus., no. 47, pt. 3,
p. 2578, 1898 (copied). — Garman, Mem.

Mus. Comp. Zool., vol. 24, p. 395, 1899
(reference).

Macrurus simulus Günther, Rep. ¹⁴³⁷
Voy. Challenger, vol. 22, p. 145, 1887
(compiled).

Macrurus (Chalinura) simulus Brauer,
Deutsch. Tiefsee Exped. Valdivia, vol.
15, p. 390, 1906 (reference). — Murray

and Hjort, Depths of the Ocean, p. 398,
1912 (Lat. $34^{\circ}59'N.$, long. $33^{\circ}1'W.$, Azores,
1430 to 1567 meters).

Depth 7 to $7\frac{1}{5}$; head 5 to $5\frac{1}{8}$, width
 $2\frac{1}{8}$ to $2\frac{2}{5}$. Snout 4 to $4\frac{1}{5}$ in head;
eye $6\frac{1}{2}$, $1\frac{3}{5}$ to $1\frac{3}{4}$ in snout, $1\frac{2}{5}$ to
 $1\frac{1}{2}$ in interorbital; predorsal short,
vertical, less than $1\frac{1}{3}$ in eye; maxillary
reaches opposite hind eye edge, length
from front end $2\frac{1}{4}$ to $2\frac{1}{3}$ in head;
mandibular barbel $4\frac{1}{2}$ to $4\frac{7}{8}$; teeth
in villiform bands in jaws, above
forming 4 or 5 irregular rows with
outer enlarged all around and
lower row single enlarged row;
interorbital $4\frac{1}{8}$ to $4\frac{2}{3}$, low,

depressed or only very slightly convex. Gill rakers $2 + 11$, low spinescent tubercles on second arch, $2\frac{1}{5}$ in gill filaments, which $2\frac{1}{5}$ in eye.

Scales (pochets) 150 in lateral line; 8 above, 17 to 19 below, 45 predorsal forward to front of snout, of which 30? forward opposite hind eye edge. Scales with 7 parallel apical spiniferous ridges, last spinules extended behind scale edge; circuli moderate, complete.

D. II, 9-113, second simple ray slender, front edge with row of antrorse denticles, length $1\frac{2}{5}$ to $1\frac{3}{5}$ in head; interdorsal space $2\frac{3}{4}$ to $3\frac{1}{5}$; A. 118, fin height $3\frac{1}{3}$ to $4\frac{1}{4}$ in head; pectoral I, 16 to

(227)

D. VI, 28, I, or 29, I, last spine $1\frac{1}{3}$
to $1\frac{2}{5}$ in total head length, first
ray $2\frac{1}{3}$ to 3; A. III, 19, I or 20, I,
third spine $1\frac{4}{5}$ to $2\frac{1}{8}$, first ray
 $1\frac{2}{5}$ to $1\frac{3}{4}$; least depth of caudal
peduncle $2\frac{1}{3}$ to $2\frac{3}{4}$; caudal $1\frac{1}{4}$ to $1\frac{2}{5}$,
hind edge slightly double concave;
pectoral $1\frac{1}{5}$ to $1\frac{1}{3}$; ventral $2\frac{7}{8}$ to $3\frac{1}{2}$.

Light brown, greater part of sides
below whitish. Five transverse brown
bands slightly inclined posteriorly from
vertical. Narrow dark band through
eye scarcely wider than pupil, from
supraoccipital down on side of chest.
Second band from predorsal, includes
hind edge of gill opening and humeral
region, pectoral base into postventral
region. Third band from spinous
dorsal to spinous anal. Fourth band
widest, from front of soft dorsal to anal medially.

1439

I, 19, fin $1\frac{3}{5}$ to $1\frac{2}{3}$ in head;
ventral rays I, 8, fin $1\frac{1}{4}$ to $1\frac{1}{2}$.

Brown, head often paler.
Iris gray. Inside mouth pale.
Inside gill opening blackish
brown. Hind edges of gill
openings blackish brown. Fins
all pale.

Western North Atlantic. Closely
related to Coryphaenoides
brevibarbis (Goode and Bean),
differing chiefly in its large barbel,
always exceeding the eye. Thus
the figure by Goode and Bean
of their Chalinura simula is
misleading, as it shows a very
short barbel.

Depth $1\frac{1}{4}$ to $1\frac{1}{2}$; head $2\frac{7}{8}$ to $3\frac{1}{8}$, width $2\frac{1}{8}$ to $2\frac{1}{4}$. Snout 3 to $3\frac{1}{10}$ in head from snout tip; eye $3\frac{1}{10}$ to 4, $1\frac{1}{5}$ to $1\frac{1}{3}$ in snout, 1 to $1\frac{1}{5}$ in interorbital; maxillary $\frac{2}{3}$ to $\frac{3}{4}$ in snout, $3\frac{1}{2}$ to 4 in head; interorbital $3\frac{1}{8}$ to $3\frac{2}{5}$, broadly convex. Gill rakers 5+9, short points, $\frac{1}{5}$ of gill filaments, which $1\frac{1}{3}$ in eye.

Scales 39 to 42 between gill opening and caudal base; tubes 32 to 34 in lateral line; 14 or 15 scales above lateral line, 27 or 28 below. Scales with 9 or 10 basal radiating striae; apical denticles 50 to 96, with 10 to 15 transverse series of basal elements; circuli free.

U.S.N.M., No. 33280.

1440

Length 510 mm.

U.S.N.M., No. 38081. Lat. $38^{\circ}27'N$,
long. $70^{\circ}54'W$.

Albatross Collection (). Length
528 mm.

U.S.N.M., No. 38103. Lat. $38^{\circ}20'N$,
long. $70^{\circ}68'W$.

Albatross Collection (). Length
330 mm to end of broken tail.

U.S.N.M., No. 38138. Lat. $36^{\circ}47'N$,
long. $73^{\circ}9'W$.

Albatross Collection (). Length
425 mm.

225

— Elera, Cat. Fauna, Filip., vol. 1, 1895, p.
487 (Samar and Cebu). — Lüncher, Mitteil.
Nat. Mus. Hamburg, band 21, 1903 (1904),
p. 151 (Singapore).

Chaetodon oligacanthus Meyer, Ann. Soc.
Españ. Hist. Nat. Madrid, vol. 14, 1885, p. 17
(Cebu).

Tetragonopterus oligacanthus Bleeker, Ned.
Tijds. Dierk., deel 2, 1865, p. 31 (Manila Bay).

Chaetodon townleyi De Vis, Proc. Linn. Soc.
New South Wales, vol. 9, 1885, p. 45-4, Moreton
Bay, Queensland.

U. S. N. M., No. 39152. Lat. 39° ¹⁴⁴¹
N., long. 70° W.

Albatross Collection (). Length
370 mm.

U. S. N. M., No. 45830.

Albatross Collection (D. 2571). Length
329 to 358 mm. 2 examples.

U. S. N. M., No. 54349.

Length 830 mm.

U. S. N. M., No. 61255.

Length 720 mm. Scales all lost.

224

February 10, 1922, p. 92, plate 27, fig. 237a
(New South Wales). — Ahl., Arch. Naturges.,
band 89, abth. G, heft 5, 1923, p. 18 (Amboina,
Celebes, Singapore).

Chaetodon bellatus Day, Ann. British India,
vol. 2, 1889, p. 10.

Chaetodon oligacanthus Bleeker, Nat. Tijds.
Ned. Indië, deel 1, 1850, p. 105. Batavia.

— Günther, Cat. Fish. Brit. Mus., vol. 2, 1860,
pp. 34, 516 (Malayan Peninsula). — Kner,
Reise Novara Fisch., 1866, p. 102 (Madras). —
Günther, Cruise of Curaçoa, Branchley, 1873,
p. 410 (Misol, Moluccas). — Day, Fishes of
India, pt. 1, 1875, p. 109. — Van Martens, Preuss.
Exped. Ost Asien, 1876, p. 388 (Singapore, Amboina).
— Macleay, Proc. Linn. Soc. New South Wales, vol.
1878, p. 351 (Port Darwin). — Klunzinger,
Sitzb. Akad. Wiss. Wien, band 80, heft 1, 1879,
p. 360 (Port Darwin). — Károli, Termesz.
Füzetek, Budapest, vol. 5, 1881, p. 155 (Selila).

1442

U. S. N. M., 5 examples. Lat. $37^{\circ}50'$

N., long. $73^{\circ}3'W$.

In 1395 fathoms.

Albatross Collection (D. 2105). Length
255 to 460 mm. 4 examples, all
poorly preserved.

223

Parachaetodon ocellatus (Cuvier).

Platys ocellatus Cuvier, Hist. Nat. Poiss.,
vol. 7, 1831, p. ²²⁹~~172~~. No locality (Collection Zool.
Soc. London).

Parachaetodon ocellatus Bleeker, Atlas Ichth.
Ind. Néerl., vol. 9, 1877, p. 24, plate (15) 377,
fig. 4 (Pinang, Singapore, Bintang, Banka,
Java, Celebes, Halmahera, Ternate, Buru,
Amboina, Ceram, Waigiu, Philippines). —
Jordan and Seale, Proc. U. S. Nat. Mus., vol. 28,
1905, p. 789 (Negros). — Jordan and Seale,
Bull. Bur. Fisher., vol. 26, 1906 (1907), p. 33
(Cavite). — Beaufort, Bijdr. Dierk. Amsterdam,
deel 19, 1913, p. 125 (Amboina). — Weber,
Siboga Exped., band 65, 1913, p. 309 (Macassar,
Saleyer). — McCulloch, Biol. Res. Endeavour,
vol. 4, pt. 4, October 31, 1916, p. 190 (Batavia,
Java; Manila; Queensland; Sydney). —
McCulloch, Austral. Zoologist, vol. 2, pt. 3,

Coryphaenoides spinosus (Gilbert and Hubbs)
Lionurus spinosus Gilbert and Hubbs,
Proc. U. S. Nat. Mus., vol. 51, p. (146)
199, pl. 10, fig. 2, 1916 (type locality:
Eastern Sea, 427 fathoms).

1444

Coryphaenoides spinulosus (Gilbert and Burke)

Chalinura spinulosus Gilbert and Burke,
Bull. Bur. Fisher., vol. 30, p. 92, figs.
36 - 36^(scale), 1910 (1912). (type locality:
off Divatcha Bay, east of Kamchatka,
682 fathoms).

Coryphaenoides spinulosus Gilbert and
Hubbs, Proc. U. S. Nat. Mus., vol. 51, p.
143, 1916 (reference).

Depth $6\frac{1}{4}$; head $5\frac{1}{10}$, width 2. Snout
4 in head; orbit $3\frac{1}{2}$, $1\frac{1}{5}$ times snout,
 $1\frac{1}{4}$ times interorbital; maxillary
reaches $\frac{4}{5}$ in orbit, length from front
end $2\frac{1}{4}$ in head; mandibular barbel
 $1\frac{4}{5}$ in orbit; teeth small, in 3 or 4
series in jaws, outer upper row little
larger and also inner lower row;
interorbital $4\frac{1}{4}$ in head, low. Gill
rakers 1+10, low tubercles on second
arch, $\frac{1}{4}$ of gill filaments, which $\frac{1}{2}$
of eye.
Scales 138? in lateral line; 9

above, 19 or 20 below, 21 predorsal forward to occiput. Scales with 5 apical radiating series of spinules, last of which extend back beyond hind scale edge; circuli fine, complete.

D. II, 9 — 118? to end of broken tail, second slender simple ray entire, length $1\frac{1}{4}$? in head; interdorsal length 6; A. 105?, fin height $4\frac{1}{8}$; pectoral rays I, 18, fin $1\frac{7}{8}$ in head; ventral rays I, 7, fin $1\frac{3}{4}$.

Largely uniform brown. Iris dark gray. Inside mouth and gill opening dark to blackish brown, also branchiostegal region. Fins all dark or dusky to blackish.

Kamchatka.

222

Genus Parachaetodon Bleeker.

Parachaetodon Bleeker, Arch. Neerl. Sci.
Nat., vol. 11, 1876, p. 303. Type Platax
ocellatus Cuvier, monotypic.

Dorsal spines graduated to last, which
longest, all small. Soft dorsal higher
than spinous fin and anterior rays
elevated, fin graduated low posteriorly.
Body deep and back elevated.

U. S. N. M., No. 74397.

In 682 fathoms.

Albatross Collection (D. 4797).

Length 390 mm to end of broken tail. Specimen in poor preservation.

Type of Chalinura spinulosa.

221
59696 U.S.N.M. Uradō, Japan.

Dr. H. M. Smith. Length 133 mm.

87031 U.S.N.M. Foochow, China.

Sowerby. Length 60 mm.

1447

Coryphaenoides stelgidolepis (Gilbert)

Macrurus stelgidolepis Gilbert,
Proc. U. S. Nat. Mus., vol. 13, p. 116,
1890 (type locality: off California,
267 fathoms). I Goode and Bean,

Oceanic Ichth., p. 391, 1895 (reference).
— Garman, Mem. Mus. Comp. Zool.,
vol. 24, p. 396, 1899 (reference).

Macrurus (Macrurus) stelgidolepis
Brauer, Deutsch. Tiefsee Exped.
Valdivia, vol. 15, p. 389, 1906
(reference).

Macrurus stelgidolepis Jordan and
Evermann, Bull. U. S. Nat. Mus., no.
47, pt. 3, p. 2585, 1898 (copied). —
Jordan, Evermann, Clark, Rep. U. S.
Comm. Fisher., pt. 2, p. 205, 1930
(reference).

Lionurus stelgidolepis Gilbert and
Hubbs, Proc. U. S. Nat. Mus., vol. 51, p.
745, 1916 (reference).

1448

Macrurus gracilicauda Garman,
Mem. Mus. Comp. Zool., vol. 24, p.
206 (397), pl. 77, fig. 1, 1899 (type
locality: lat. $7^{\circ}31'30''$ N., long. 79°
 $14'$ W., 458 fathoms; Gulf of Panama,
286 fathoms).

Macrurus (Macrurus) gracilicauda
Brauer, Deutsch. Tiefsee Exped.
Valdivia, vol. 15, p. 388, 1906 (reference).

Macrurus gracilicauda Jordan,
Evermann, Clark, Rep. U. S. Comm.
Fishes, pt. 2, p. 206, 1930 (reference).

Depth $5\frac{1}{3}$ to $6\frac{1}{8}$; head $4\frac{1}{2}$ to ~~$4\frac{3}{4}$~~ ⁵,
width $1\frac{2}{3}$ to 2. Snout to eye $3\frac{2}{3}$ to
4 in head; eye $4\frac{7}{8}$ to $6\frac{1}{5}$ $1\frac{1}{5}$ to $1\frac{1}{2}$
in snout, 1 to $1\frac{1}{4}$ in interorbital;
orbit $3\frac{3}{5}$ to $4\frac{4}{5}$ in head, $1\frac{1}{5}$ times
snout, $1\frac{1}{5}$ to $1\frac{1}{4}$ times interorbital;
preoral profile oblique, straight,
short, length $5\frac{4}{5}$ to $6\frac{1}{2}$ in head;
maxillary reaches $\frac{2}{5}$ to $\frac{2}{3}$ in eye,

1449

length ^{$2\frac{4}{5}$ to} $3\frac{1}{8}$ in head; mandibular
barbel 4 to $4\frac{2}{5}$; teeth in
villiform bands in jaws, in 4
or 5 irregular rows; interorbital
 $4\frac{1}{8}$ to 5 in head, low, level.
Gill rakers ^{0 or} $1 + 7$, ^{to 10} low spinescent
tubercles on second arch, $\frac{1}{5}$ of
gill filaments, which $1\frac{1}{2}$ in
orbit.

Scales ^{to 155} 130 , in lateral line; 9
above, ^{19 to} 21 below, ^{or 46} 45 , predorsal
of which 25 forward opposite
hind orbital edge. Scales
with $1\frac{3}{4}$ ^{to} 18 close set irregular
parallel apical series of
long slender spinules, well or not
extended beyond scale edge;
circuli moderate, apparently
not extended apically.

220

Coradion desmotes Jordan and Fowler.

Coradion desmotes Jordan and Fowler, Proc.

U. S. Nat. Mus., vol. 25, 1902, p. 539, fig. 5.

Nagasaki, Japan. — Smith and Pope, Proc.

U. S. Nat. Mus., vol. 31, 1907, p. 480 (Uradō).

Greatly like Coradion chrysogonius, which usually has the anterior broad brown band on the body divided, at least above, by a pale intersecting parallel narrow band or line. The present species differs chiefly in the pale, uniform caudal peduncle.

1450

Uniform dark brown, under surface of head, chest and belly blackish brown. Iris grayish. Inside mouth pale. Border inside gill opening and above blackish brown, below and further inside whitish. Fins dark brown.

Off California, Gulf of Panama.
A compact species, with robust
appearance and finely villose
like squamation.

214

Coradion melamopus (Cuvier).

Chaetodon melamopus Cuvier, Hist. Nat. Poiss., vol. 7, 1831, p. 84. Moluccas.

Coradion melamopus Bleeker, Atlas Ichth. Ind. Néerl., vol. 9, 1877, p. 26, ~~plate (13)~~.

~~Moluccas~~ (Amboina, Ceram). — Ahl. Arch. Naturg., band 89, abth. A, heft 5, 1923, p. 42 (East Indies; Ralum).

Chaetodon festivus Desjardins, Proc. Zool. Soc. London, 1833, p. 127. Mauritius.

Coradion chrysomus (part) Kaup, Arch. Naturg., abth. 1, 1861, p. 146.

Megaprotodon strigangulus ^(non Gmelin) Bleeker, Atlas Ichth. Ind. Néerl., vol. 9, 1877,

plate (13) 375, fig. 4 (non 1).

Differs from Coradion chrysomus in dark ocellus on soft dorsal and another on soft anal.

1451
U. S. N. M., no. 44276.

In 267 fathoms.
Albatross Collection (D. 2960). Type
of macrurus stelgidolepis 310 mm,
paratype 299 mm.

U. S. N. M., no. 57861. Lat. $7^{\circ}31'30''$
N., long. $79^{\circ}14'W$.

In 458 fathoms.
Albatross Collection (D. 3384). Length
222 to 313 mm. 3 examples.

U. S. N. M., no. 87579.

Albatross Collection (D.)
Length 312 mm.

1793 (D. 5151).

February 18, 1908. Length 70 mm.

1798 (D. 5138).

February 14, 1908. Length 72 mm.

2018 to ^{A449} 2026 (D. 5147).

February 16, 1908. Length 67 to 110 mm.

Coryphaenoides sublaevis Vaillant

Coryphaenoides sublaevis Vaillant,
Expéd. Sci. Travailleur et Talisman,
Poiss., p. 386, 1888 (on Coryphaenoides
aequalis Vaillant). — Gilbert and

Hubbs, Proc. U. S. Nat. Mus., vol. 51, p.
144, 1916 (reference).

Coryphaenoides aequalis (not Günther)
Vaillant, Expéd. Sci. Travailleur et
Talisman, Poiss., p. 225, pl. 19, figs.
2a-e, 1888 (type locality: coasts of
Morocco, 2200 mm; Soudan; Banc
d'Arguin; Cape Verde Islands, 140
to 2115 meters).

1453

Coryphaenoides suborbitalis (Gill and Townsend)

Macurus suborbitalis Gill and Townsend, Proc. Biol. Soc. Washington, vol. 11, p. 234, 1897 (type locality: Bering Sea south west of Pribilof Islands, 1771 fathoms).

Rematonurus suborbitalis Jordan and Evermann, Bull. U. S. Nat. Mus., no. 47, pt. 3, p. 2572, 1898 (type). — Gilbert

and Hubbs, Proc. U. S. Nat. Mus., vol. 51, p. 143, 1916 (reference). — Jordan, Evermann, Clark, Rep. U. S. Comm. Fisher., pt. 2, p. 203, 1930 (reference).

Malacocephalus suborbitalis Garman, Mem. Mus. Comp. Zool., vol. 24, p. 395, 1899 (reference).

Depth $6\frac{4}{5}$; head $5\frac{1}{3}$, width $1\frac{2}{3}$.
Snout to eye $3\frac{1}{2}$ in head; eye
 $6\frac{1}{3}$, $1\frac{3}{4}$ in snout, $1\frac{2}{5}$ in
interorbital; orbit $4\frac{1}{3}$ in head,
1 in snout, 1 in interorbital;
maxillary reaches opposite hind
eye edge, length from front end
 $2\frac{3}{5}$ in head; mandibular barbel
 $1\frac{1}{4}$ in orbit; teeth simple, conic,
outer larger and wide set above,
lower uniserial and wide set
outer upper ones; interorbital
 $4\frac{1}{2}$ in head, nearly level or
slightly concave medially. Gill
rakers 0 + 11 low spinescent
tubercles on second arch, $\frac{1}{3}$ of
gill filaments, which $1\frac{3}{4}$ in orbit.

Scales 150 in lateral line
to small pseudocaudal; 9 above,
18 below, 55 predorsal to snout

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below lateral line with golden yellow spots, forming series of narrow longitudinal lines most distinct behind head. ^{Tip of chin dusky.} Dorsal with colour of body, tips of spines and membranes except second ^{spine} lemon yellow, which merges to hyaline and forms marginal band round rest of fin; narrow pearl gray band begins on fourth dorsal spine submarginally, defined by darker border; second spine black. Median ocellus on soft dorsal, central area about size of eye black bordered with pearl gray. Anal like dorsal, but without black spine or ocellus. Caudal gray. Pectoral hyaline. Ventral black.

^{and 1591.}
1590₁ (D. 5-145).

February 15, 1908. Length 60 to 77 mm.

1632 (D. 5-146).

February 16, 1908. Length 50 mm.

tip of which 30 forward opposite hind orbital edge. Scales with 6 or 7 apical radiating spinuliferous keels, Last spinules not or only very slightly extended beyond hind scale edge; circuli moderate, complete.

D. II, 10 - 85, second simple ray elongate, slender, with series of antorse spines along its front edge, length $1\frac{3}{5}$ in head; interdorsal space 2; A. 100, fin height $3\frac{2}{5}$?; pseudocaudal very small rudiment; pectoral rays I, 18, fin $2\frac{3}{4}$ in head; ventral rays I, 10, fin $1\frac{3}{5}$.

Uniform brownish. Iris gray. Branchiostegal region dark chocolate brown. Mouth brownish

1584 [129] (D. 5.30).

February 14, 1908. Length 90 mm. Silvery white, crossed by 4 dark number bands on back, first 3 merging into black below. An additional narrow median number and black stripe on snout and forehead. Ocular band number above, black beginning just above eye, two uniting and continued on breast nearly to pectoral and ventral base; width $\frac{2}{3}$ of eye. Second band wide as eye begins below first dorsal spine, passes through pectoral base and involves ventral base, joins third band on belly which begins at bases of fifth to tenth dorsal spines. Fourth band begins at middle of soft dorsal, passes to middle of soft anal slightly backward and indistinctly bordered narrower with gray. Black band on caudal peduncle at caudal fin base. Centers of scales

inside. Inside gill opening
blackish brown. Fins all dark
or dusky.

Bering Sea.

U. S. N. M., No. 48773.

In 1771 fathoms.

Albatross Collection (D. 3603).

Length 490 mm. Type of macurus
suborbitalis.

215
3891. Bumbum Island. September 25,
1907. Length 122 mm.

A 1517. Daisy Islet, west of Bumbum
Island. January 6, 1910. Length 134 mm.

^{and 1197.}
1180, [^] Golo market. March 7, 1908.
Length 82 to 118 mm.

4754. Toba Island. December 14, 1909.
Length 163 mm.

260. Tutu Bay, Golo, second anchorage.
September 19, 1909. Length 122 mm.

567, A 888, A 877. Limbe Strait, Celebes.
November 10, 1909. Length 130 to 159 mm.
4 examples.

448 and A 1187. Gane Road, Gillolo
Island. December 1, 1909. Length 123 to 133 mm.

Coryphaenoides sulcatus Goode and Bean
Coryphaenoides sulcatus Goode and Bean,
Proc. U. S. Nat. Mus., vol. 8, p. 596,
1885 (1886) (type locality: off
Martinique, 472 fathoms); Oceanic
Ichth., p. 403, 1895 (type; off
Martinique, 472 fathoms).

Macrurus sulcatus Günther, Rep. Voy.
Challenger, vol. 22, p. 169, 1887 (compiled).

Macrurus (Trachonurus) sulcatus
Brauer, Deutsch. Tiefsee Exped.
Valdivia, vol. 15, p. 391, 1906 (reference).

Trachonurus sulcatus Goode and Bean,
Oceanic Ichth., p. 410, 1895 (above
examples). — Jordan and Evermann,
Bull. U. S. Nat. Mus., no. 47, pt. 3,
p. 2591, 1898 (copied).

Malacocephalus sulcatus Garman,
Mem. Mus. Comp. Zool., vol. 24, p. 395,
1899 (reference).

Depth 9 to $9\frac{2}{5}$; head $6\frac{3}{4}$ to $7\frac{1}{3}$, width 2 to $2\frac{2}{5}$. Snout 4 to $4\frac{2}{5}$ in head, $1\frac{2}{5}$ to $1\frac{1}{2}$ in eye; eye $2\frac{1}{2}$ to $3\frac{2}{5}$ in head, greater than snout or interorbital; maxillary reaches $\frac{1}{3}$ to $\frac{2}{5}$ in eye, length $2\frac{2}{3}$ to $2\frac{7}{8}$ in head; mandibular barbel $2\frac{2}{5}$ to $3\frac{1}{4}$ in eye; teeth minutely villiform, in bands in jaws of 6 to 8 irregular rows; interorbital $3\frac{2}{5}$ to $3\frac{1}{2}$ in head, $1\frac{1}{10}$ to $1\frac{3}{5}$ in eye, low, slightly convex. Gill rakers 0+9 low-spinescent tubercles on second arch, $\frac{1}{3}$ of gill filaments, which $2\frac{3}{4}$ in eye.

219

East Indies, China. Bleeker's
figure of this species has been
transformed with Chaetodon rafflesii
We cannot find that Chaetodon altivelis
McCulloch is distinct from the present
species.

Scales 175 in lateral line, 7 above, 21 or 22 below, 13 predorsal forward to occiput, which about first fifth between hind orbital edge and first dorsal origin. Scales with cluster of 5 to 10 irregular, mostly erect, slender, long, divergent spinules, most extending well beyond scale limits; circuli moderate, not extended apically.

D. II, 8 or II, 9 — 157?; second simple ray slender, pungent, entire, filamentous terminally, 2 to 2 1/5 in head; interdorsal space 4 to 4 1/2; A. 145?, fin head 3 3/5?; pectoral rays I, 12, fin 2 1/2 to 3 in head; ventral fin

213
Broad deep brown band from front
half of dorsal to ventral origin
and vent; posteriorly narrower
whitish parallel band; from soft
dorsal to anal another brown band,
~~broader than pale band~~ in young
extends down narrowed to ends of
first anal rays; front of caudal
peduncle ~~with~~ with transverse
pale band, followed by black
narrower band at caudal base,
which formed as dark vertical ellipse
in young. First dark broad trans-
verse band of body with vertical
gray band from dorsal till opposite
pectoral base, also little before
middle in width of band. ~~Below~~
~~lateral line~~ Each row of scales ^{on body}
with median pearly spot, so arranged
to form longitudinal whitish streaks
~~longitudinal~~ conforming to rows of scales,
and crossing from first dark band to
end of ~~first~~ second part beginning of
caudal peduncle; spots larger in
costal region. Second membrane of
spinous dorsal black. Soft dorsal
and anal with gray border, and
each with pair of close-set deep brown
submarginal lines. Ventrals blackish,
pectorals and caudal pale brown.
At middle of soft dorsal round
black spot. Larger and ocellated
with white in young.

1460

rays ±, 6 (damaged).

Brown, more or less uniform. Mandible, under surface of head, inclusive of opercles, chest and belly dark neutral to blackish brown. Iris dark gray. Inside iris gray. Inside gill opercle blackish brown. Fins all brown.

West Indies. Rough velvety to touch, covered with fine erect spinules and scales well imbedded so as to appear scarcely distinct. The tail is very long, slender and tapering nearly to filament.

A 449. Bubuon Island, Jolo. February 16, 1908. Length 108 mm. (D5147.)

753. Buno Bay, Palijit Island.

March 15, 1909. Length 147 mm.

1 example. Casmahala Bay. March 11, 1909. Length 15 mm.

7514. Endeavor Strait. December 22, 1908.

Length 170 mm.

417 and 418. Great Tobea Island.

December 15, 1909. Length 113 to 130 mm.

13987. Iloilo Market. May 31, 1908.

Length 91 mm.

1197. Jolo market. March 6, 1908. Length 84 mm.

1180. Jolo market. March 7, 1908. Length 116 mm.

4784. Manila Market. April 28, 1908.

Length 78 mm.

7728. Manila market. March 20, 1908. Length 142 mm.

567 and A897. Limbe Strait, Celebes. November 10, 1909. Length 158 to 160 mm.

52033 U.S. N.M. Southern Negro. etc.

Barkford Dean 1901. Length 85 mm.

36319 U.S. N.M. Cavite. G.A. Ljung.

Length 34 to 89 mm. 4 examples.

1461
U. S. N. M., No. 34907. Lat. $15^{\circ} 24' 40''$ N., long. $63^{\circ} 31' 40''$ W.

In 683 fathoms. January 27, 1884.
Albatross Collection ().

Length 683 ~~fathoms~~ mm.

U. S. N. M., No. 37335. Lat. $28^{\circ} 38' 30''$ N., long. $87^{\circ} 02'$ W.

In 420 fathoms.

Albatross Collection (D. 2394).

Length 90 to 234 mm. 4 examples.
Types.

Black ocellus large as eye at base of soft dorsal anteriorly within middle of fourth dark band. Last dark band extends across caudal peduncle, with white marginal line in front and behind. Fins all pale or dull brown, inner ventral border deeper brown.

India, East Indies, China. Easily known by its greatly elevated soft dorsal anteriorly. Besides the specimens listed below is a small one but 15 mm. long from Port Dupon, Leyte, obtained May 6, 1908, evidently the Tholichthys stage of the present species.

11 examples. (Tholichthys stage.) Port Dupon, March 17, 1909. Length 12 to 16 mm.

1 example. Below mouth Mindanao River, Cotabato, Mindanao. May 20, 1908. Length 35 mm.

1462

Coryphaenoides trichiurus (Garman)

Macrurus trichiurus Garman, Mem.
Mus. Comp. Zool., vol. 24, p. 215 (397),
1899 (type locality: lat. $6^{\circ} 30' N.$, long.
 $81^{\circ} 44' W.$, off Mariato Point, Panama,
555 fathoms).

Macrurus (Macrurus) trichiurus Brauer,
Deutsch. Tiefsee Exped. Valdivia,
vol. 15, p. 388, 1906 (reference).

Macrourus trichiurus Jordan,
Evermann, Clark, Rep. U. S. Comm.
Fishes, pt. 2, p. 206, 1930 (reference).

Lionurus trichiurus Gilbert and Hubbs,
Proc. U. S. Nat. Mus., vol. 51, p. 146, 1916
(reference).

1463

Coryphaenoides tydemani (Weber)

Macrurus tydemani Weber, Siboga
Expd., vol. 57, p. 158, pl. 1, fig. 16, 1913
(type locality: lat. $7^{\circ}28'2''S$, long. 115°
 $24'6''E$, Bali Sea, 1018 meters;
Flores Sea; Ceram Sea; Arafura
Sea; 538 to 1310 meters).

Coryphaenoides tydemani Gilbert
and Hubbs, Bull. U. S. Nat. Mus.,
No. 100, vol. 1, p. 414, 1920 (Buton
Strait near Celebes, 559 fathoms). —
Weber and Beaufort, Fishes Indo
 Austral. Archip., vol. 5, p. 31, fig. 6,
1929 (type; Weber's materials).

1464
Coryphaenoides violaceus (Jugmayer)

Macrurus violaceus Jugmayer, Bull.
Inst. Océan. Monaco, no. 193, p. 9,
Jan. 20, 1911 (type locality: lat. 36°
 $42'N.$, long. $8^{\circ}40'W.$, 750 meters);
Rés. Camp. Sci. Monaco, vol. 35,
p. 123, pl. 6, figs. 2a-b, 1911 (types).

Coryphaenoides whitsoni (Regan)

Chalinura whitsoni Regan, Rep. Voy.
Scotia, vol. 4, Zool., p. 1410, pl. 2,
fig. 2, 1915 (type locality: lat. $48^{\circ}6'$
S., long. $10^{\circ}5'W.$, 1742 fathoms; lat.
 $71^{\circ}22'S.$, long. $16^{\circ}34'W.$, 1410 fathoms).

Coryphaenoides whitsoni Gilbert and
Hubbs, Proc. U. S. Nat. Mus., vol. 51,
p. 143, 1916 (reference).

1464

Coryphaenoides wood-masoni (Alcock)

Macrurus wood-masoni Alcock, Ann.

Mag. Nat. Hist., ser. 6, vol. 6, p. 301,
Oct. 1890 (type locality: lat. $11^{\circ}12'47''N$,
long. $74^{\circ}25'30''$, off Elicapeni Bank,
Laccadive Sea, 1000 fathoms);

Journ. Asiatic Soc. Bengal, vol. 43,
pt. 2, p. 126, 1894 (

ser. 6, vol. 8, p. 121, 1891 (Station 109, 738 fathoms);

ser. 6, vol. 10, p. 353, Nov. 1892 (Station
128, 902 fathoms; Station 135, 559 fathoms).

Illustrat. Zool. Investigator, pt. 2, pl.
13, fig. 1, 1894. — Goode and Bean,

Oceanic Ichth., p. 390, 1895 (reference).

— Garman, Mem. Mus. Comp. Zool.,
vol. 24, p. 396, 1899 (reference).

Macrurus (Macrurus) wood-masoni
Alcock, Cat. Deep Sea Fishes Indian

Mus., p. 114, 1899 (Arabian Sea,
360 to 1000 fathoms). — Brauer,

Deutsch. Tiefsee Exped. Valdivia,
vol. 15, p. 267 (389), 1906 (off east Africa,
693 meters; Gulf of Aden, 1840 meters).

1467
Coryphaenoides wood-masoni Gilbert
and Hubbs, Proc. U. S. Nat. Mus., vol.
51, p. 144, 1916 (reference); Bull. U.
S. Nat. Mus., no. 100, vol. 1, p. 409,
1920 (reference).

1462

Coryphaenoides zaniaphorus (Vaillant)

Macrurus zaniaphorus Vaillant,
Expéd. Sci. Travailleur et Talisman,
Poiss., p. 245, pl. 22, figs. 4-a (scale),
1888 (type locality: coasts of
Morocco; Soudan; Banc d'Arguin;
830 to 1350 fathoms). — Goode and

Bean, Oceanic Ichth., p. 397, 1895
(name). — Garman, Mem. Mus.
Comp. Zool., vol. 24, p. 396, 1899
(reference). — Murray and Hfort,

Depths of the Ocean, p. 397, 1912 (lat.
49°38' N., long. 11°35' W., 504 fathoms;
lat. 28°8' N., long. 13°35' W., 747 fathoms).

Macrurus (Macrurus) zaniaphorus
Brauer, Deutsch. Tiefsee Exped.
Faldivia, vol. 15, p. 389, 1906 (reference).